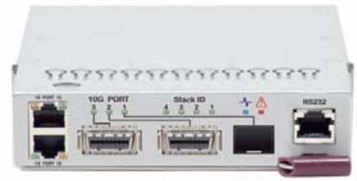
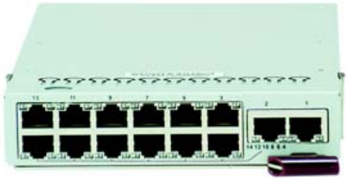
SUPERMICRO®

SuperBlade®
Network Modules


10G PORT
Stack ID
RS232

SBM-GEM-X2C 1/10 Gbps
Ethernet Switch Module

SBM-GEM-001 Gbps
Ethernet Switch Module



SBM-GEM-002 Gbps
Ethernet Pass-Through Module

4x DDR InfiniBand Module

SBM-XEM-002 10Gps
Ethernet Pass-Through Module

User’s Manual

Revison 1.0

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Manual Revison 1.0

Release Date: February 18, 2009

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Preface

About this Manual

This manual is written for professional system integrators, Information Technology professionals, service personnel and technicians. It provides information for the installation and use of Supermicro's network modules. Installation and maintenance should be performed by experienced professionals only.

Manual Organization

Chapter 1: Introduction

The first chapter provides an overview of this manual.

Chapter 2: System Safety

You should familiarize yourself with this chapter for a general overview of safety precautions that should be followed when installing and servicing Superblade Network Modules.

Chapter 3: Setup and Installation

Refer here for details on installing the modules into a SuperBlade enclosure and for their setup and configuration.

Chapter 4: InfiniBand Module

This chapter details the InfiniBand module and its features.

Chapter 5: Ethernet Switches Modules

This chapter details all switches and pass-through modules for the SuperBlade system.

Chapter 6: 1-Gb Ethernet Switch Firmware

This chapter details 1-Gb switch firmware menus and screens and how to use them.

Chapter 7: 10-Gb Ethernet Switch Firmware

This chapter details 1/10-Gb switch firmware menus and screens and how to use them.

Appendix A: HCA Mezzanine Cards

This appendix details the HCA mezzanine cards that can be installed in blade modules for use with the InfiniBandInfiniBand or 1/10-Gb switch modules.

Appendix B: LED Descriptions

LED descriptions are summarized here in this appendix for quick reference.

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Chapter 1
Introduction

1-1 Overview

The Superblade Network Modules User’s Manual contains information on all network modules used for the Supermicro SuperBlade system. This incorporates information on the InfiniBand module, all switch modules and all pass-through modules.

1-2 Product Checklist of Typical Components

All modules are shipped alone or with a SuperBlade enclosure when ordered. Aside from packaging, no cables or cords are included.

1-3 Features

See Chapter 4: "InfiniBand Module" on page 4-1 for information and features of the InfiniBand module. See Chapter 5: "Ethernet Switches Modules" on page 5-1 for information on all switches and pass-through modules.

1-4 Contacting Supermicro

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Chapter 2

System Safety

System safety precautions and information is included in this chapter. Please review this information before installing or using your Supermicro equipment.

2-1 Electrical Safety Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the SuperBlade from damage:

- Be aware of how to power on/off the enclosure power supplies and the individual blades as well as the room's emergency power-off switch, disconnection switch or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.
- Do not work alone when working with high voltage components.
- Power should always be disconnected from the blade module when removing or installing such system components as the mainboard, memory modules and processors.
- When working around exposed electrical circuits, another person who is familiar with the power-off controls should be nearby to switch off the power if necessary.
- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.
- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.
- The power supply power cords must include a grounding plug and must be plugged into grounded electrical outlets. Power input requires 110-240 VAC, depending upon your power supply module.
- Mainboard Battery: This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032 Lithium 3V battery). Dispose of used batteries according to the manufacturer's instructions.

⚠ **WARNING:** There is a danger of explosion if the onboard battery is installed upside down, which will reverse its polarities.

- Mainboard replaceable soldered-in fuses: Self-resetting PTC (Positive Temperature Coefficient) fuses on the mainboard must be replaced by trained service technicians only. The new fuse must be the same or equivalent as the one replaced. Contact technical support for details and support.

2-2 General Safety Precautions

Follow these rules to ensure general safety:

- Keep the area around the SuperBlade clean and free of clutter.
- Place the blade module cover and any system components that have been removed away from the system or on a table so that they won't accidentally be stepped on.
- While working on the system, do not wear loose clothing such as neckties and unbuttoned shirt sleeves, which can come into contact with electrical circuits or be pulled into a cooling fan.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.
- After accessing the inside of the system, replace the blade module's cover before installing it back into the blade enclosure.

2-3 Electrostatic Discharge Precautions

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards.

The following measures are generally sufficient to neutralize this difference **before** contact is made to protect your equipment from ESD:

- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling chips or modules, avoid touching their pins.
- Put the mainboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure the blade enclosure provides excellent conductivity between the power supplies, the blade modules and the mainboard.

2-4 Operating Precautions

Care must be taken to assure that the cover of the blade unit is in place when the blade is operating to assure proper cooling. Out of warranty damage to the blade can occur if this practice is not strictly followed.

Any drive carrier without a hard drive installed must remain fully installed in the drive bay when the blade module is operating to ensure proper airflow.

Chapter 3
Setup and Installation

This chapter covers the setup and installation of the SuperBladeSuperBlade Ethernet switch modules.

SuperMicro has two different Gigabit Ethernet switch modules for its SuperBlade system. The first is the SBM-GEM-001 Gigabit Ethernet switch module with ten external 1-Gbps Ethernet uplinks. The second SBM-GEM-X2C 1/10 Gigabit Ethernet switch module is a 1-Gbps Ethernet switch with three external 10-Gbps uplink and two external 1-Gbps Ethernet uplink ports. The following pages contain some installation instructions that are common to both switches.

NOTE: The pass-through modules do not require any special setup or configuration, just installation in their bays.

The SBM-GEM-002 Gigabit pass-through module uses the same single bays as the Gigabit Ethernet switch modules, while the SBM-XEM-002 10-Gigabit pass-through module requires a double-wide bay for its installation into the SuperBlade enclosure. See the *SuperBlade User's Manual* for details on double-wide bay setup.

3-1 Installing/Removing a Switch Module

Follow the procedures below for installing or uninstalling any of the Gigabit Ethernet switch modules into a SuperBlade system.

Installing a Switch Module

1. Make sure the cover to the module has been installed before proceeding. Follow the anti-static precautions described in Chapter 2.
2. Remove the dummy cover from the bay you want to place the module in.
3. Place the module's release handle in the open position.
4. Slide the module into the module bay until it stops (see Figure 3-1 and Figure 3-2).

Figure 3-1. Blade Enclosure with Gbps Switch Modules Installed

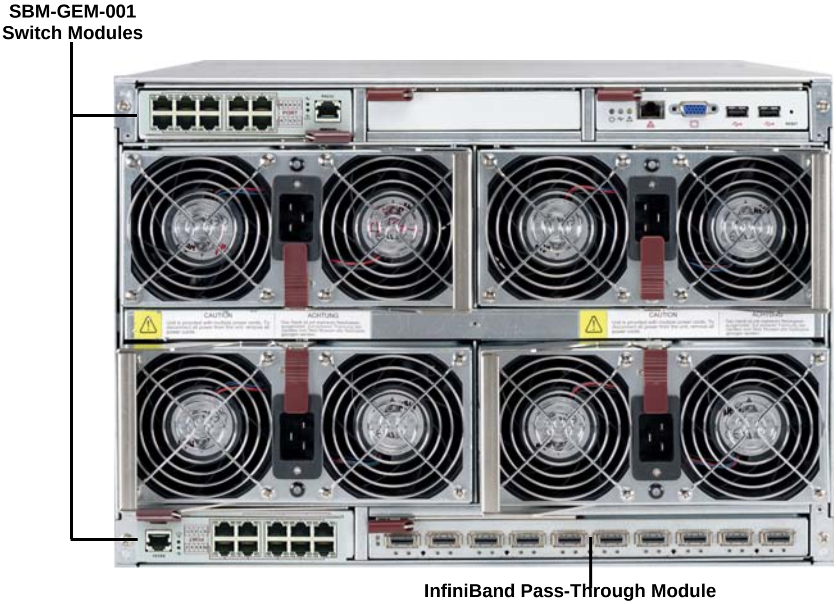
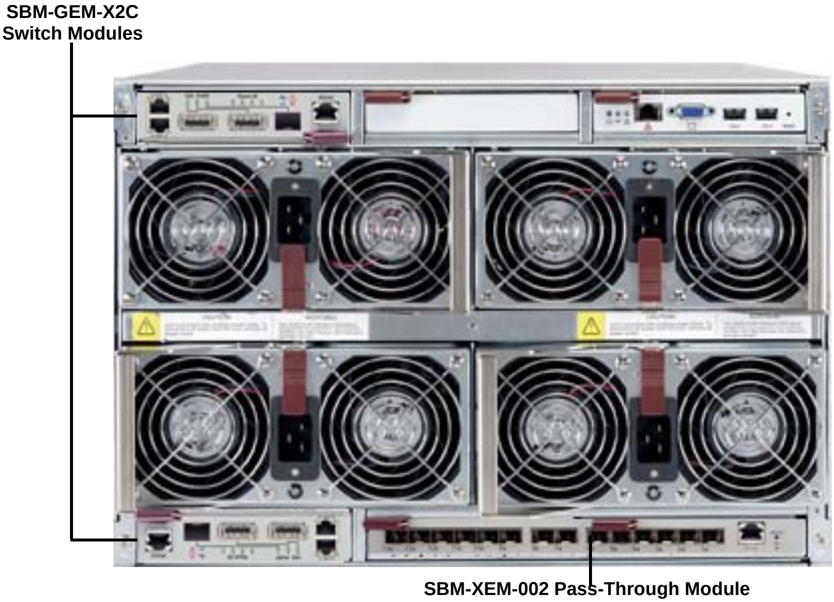

SBM-GEM-001
Switch Modules
InfiniBand Pass-Through Module

Figure 3-2. Blade Enclosure with 1/10 Gbps Switch Modules Installed



5. Push the release handle to the closed position.

NOTE: After the module has been installed and the handle locked, it will turn on and a POST test will run to verify it is working properly. If there are no problems the blue **Init. OK** LED on the module will illuminate and you will see an **OK** under INITIATED in the GBE SWITCH screen of the management software utility.

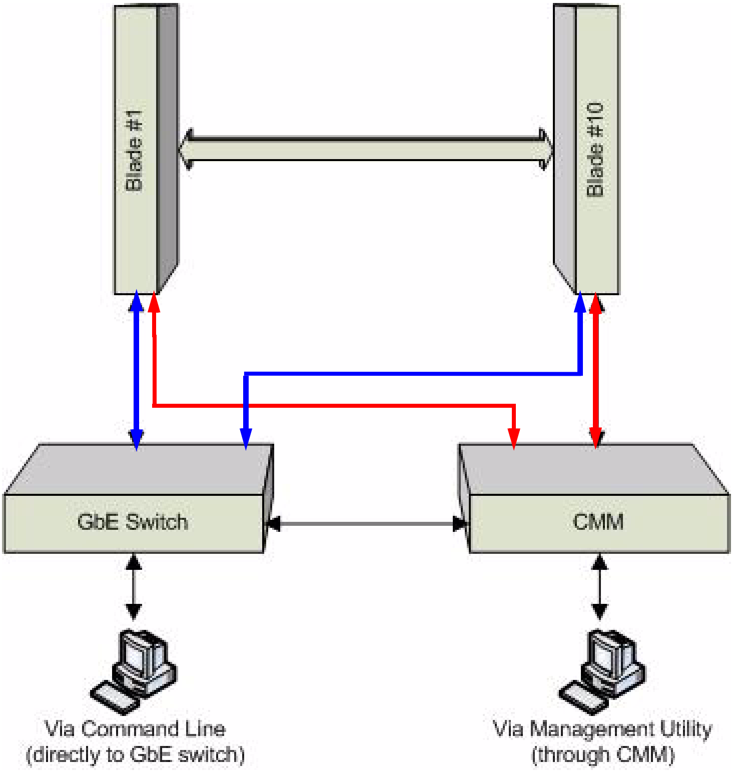
NOTE: If the module is installed in a top bay it must be positioned upside-down.

Removing a Switch Module

1. Pull out the release handle to the open position.
2. Pull the module out of the bay.
3. Replace immediately with another module or with a dummy module cover to maintain airflow integrity.

3-2 Configuring the Switch Module

Figure 3-3. Configuring the Switch Module


Blade #1
Blade #10
GbE Switch
CMM
Via Command Line
(directly to GbE switch)
Via Management Utility
(through CMM)

A Gigabit Ethernet switch module can be configured using two methods (as shown in Figure 3-3). You may configure it:

- Through the web-based management utility or IPMI (via the CMM module)
- Directly through a command line (using a telnet interface or a serial console)

The management utility and IPMI access the switch module through the CMM module. To access it directly, use the command line.

Note that any port may be configured as *up* (active) or *down* (inactive). All ports are active by default.

For more detailed information on configuration of the switches, see either Chapter 6: "1-Gb Ethernet Switch Firmware" on page 6-1 or Chapter 7: "10-Gb Ethernet Switch Firmware" on page 7-1.

Web-based Management Utility/IPMI

Using the Web-based Management Utility or IPMI is the most user-friendly method of configuring the switch module. You can access the configuration menu either through the management utility or by a network connection.

See either Chapter 6 or Chapter 7 for more details on the Web-based Management Utility.

Network Connection

Use the procedure below to connect and login to the IPMI system.

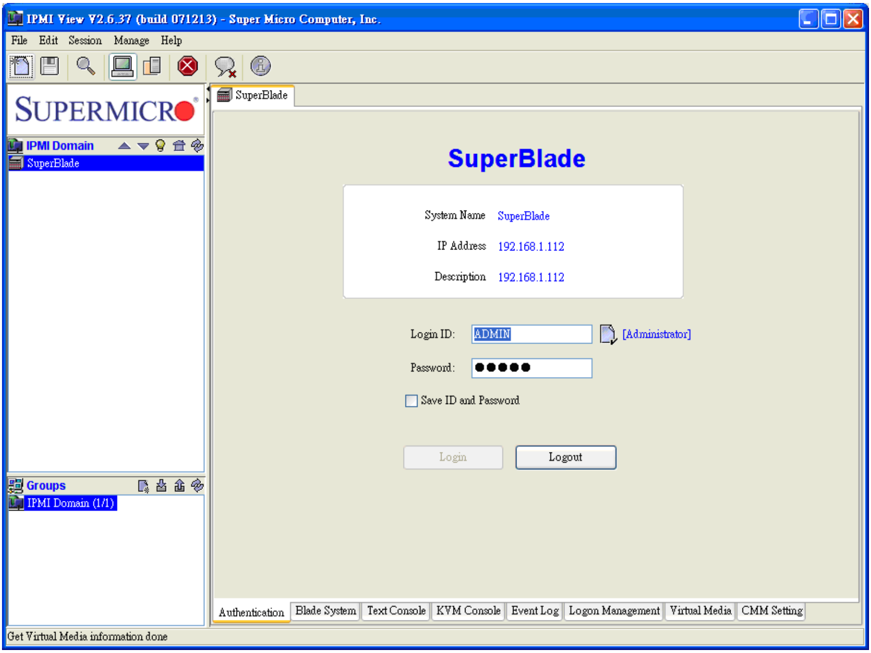
Logging In to the IPMI:

1. Connect a PC to a network that is accessible to the switch.

   For example, connect a PC to any of the front panel ports of the switch and make sure the PC has an IP address on the same subnet as the switch management IP.

2. Type the IP address of the switch that you want to connect to in the address bar of your browser, and hit <ENTER>. Once the connection is made, the LOGIN screen displays (Figure 3-4).

Figure 3-4. IPMI Login Screen


IPMI View V2.6.37 (build 071213) - Super Micro Computer, Inc.
File
Edit
Session
Manage
Help
SUPERMICRO
IPMI Domain
SuperBlade
Groups
IPMI Domain (1/1)
SuperBlade
SuperBlade
Authentication
Blade System
Text Console
KVM Console
Event Log
Logon Management
Virtual Media
CMM Setting

System Name SuperBlade

IP Address 192.168.1.112

Description 192.168.1.112

Login ID: ADMIN [Administrator]

Password: ●●●●●

☐ Save ID and Password

Login Logout

Get Virtual Media information done

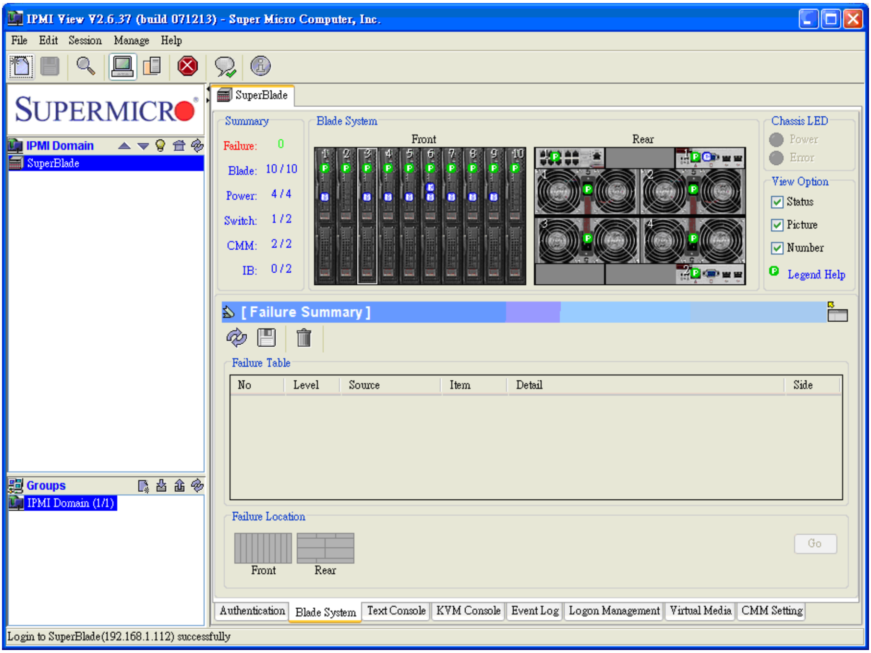
a. Type in your Username in the USERNAME box.

b. Type in your Password in the PASSWORD box and click on LOGIN.

NOTE: The default username and the default password are both **ADMIN**. The Default IP address is **192.168.100.102**.

The IPMI Blade System screen shown in Figure 3-5 is then displayed.

Figure 3-5. IPMI Blade System Screen


IPMI View V2.6.37 (build 071213) - Super Micro Computer, Inc.
File Edit Session Manage Help
SUPERMICRO
IPMI Domain
SuperBlade
Groups
IPMI Domain (1/1)
SuperBlade
Summary
Blade System
Front
Rear
1 2 3 4 5 6 7 8 9 10
Chassis LED
Power
Error
View Option
Legend Help
[Failure Summary]
Failure Table
Failure Location
Front
Rear
Go
Authentication
Blade System
Text Console
KVM Console
Event Log
Logon Management
Virtual Media
CMM Setting

Failure: 0
Blade: 10 / 10
Power: 4 / 4
Switch: 1 / 2
CMM: 2 / 2
IB: 0 / 2

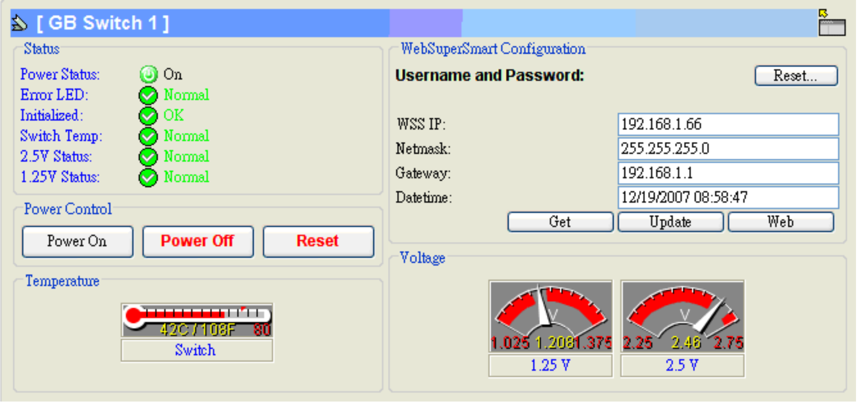
☑ Status
☑ Picture
☑ Number

No	Level	Source	Item	Detail	Side

Login to SuperBlade(192.168.1.112) successfully

3. Clicking on a gigabit switch module will display the gigabit switch in the Gigabit Switch panel on the screen (Figure 3-6). You may make changes in the configuration of the switch module in this panel to your needs.

Figure 3-6. Gigabit Switch Panel



[GB Switch 1]

Status

Power Status: On

Error LED: Normal

Initialized: OK

Switch Temp: Normal

2.5V Status: Normal

1.25V Status: Normal

WebSuperSmart Configuration

Username and Password:

WSS IP: 192.168.1.66

Netmask: 255.255.255.0

Gateway: 192.168.1.1

Datetime: 12/19/2007 08:58:47

Reset...
Get
Update
Web
Power Control
Power On
Power Off
Reset
Temperature
42C / 108F
80
Switch
Voltage
1.025
1.208
1.375
1.25 V
2.25
2.46
2.75
2.5 V

Address Defaults

The following are the default addresses that are initially set. Afterwards, you can change these values within the program.

Table 3-1. SBM-GEM-001 Switch Module Address Default Settings

Address	**Default Setting**
Default IP Address	192.168.100.102
Default Gateway Address	192.168.100.1
Default Subnet Mask	255.255.255.0

NOTE: If two switches are installed in a SuperBlade system, you will have to change the IP address of one from the default so that both switches have unique addresses.

Command Line

Configuring the switch can be done using a command line via telnet or by using the serial console interface.

Accessing CLI through Telnet:

To access command line via telnet, follow the below steps.

1. Connect a PC to a network that is accessible to the switch.

   For example, connect a PC to any of the front panel ports of the switch and make sure the PC has an IP address on the same subnet as the switch management IP.

2. In the PC, start a telnet client session with the switch management IP (default IP is **192.168.100.102**).

   This brings up the switch's command line interface for user login.

3. Enter **username** and **password** to login to the switch.
4. To view the switch configurations use **show commands** and to configure the switch type **config term** to get access to the configuration commands. For help type **?** or **help**.

Accessing CLI through a Serial Console

To access command line via a serial console, follow the below steps.

1. Connect a PC serial port to the switch console port.
2. In the PC, open any seral port access applications, such as Hyperterminal or Term Term.
3. Choose the serial port connected with the switch and configure with the following parameters:

   Baudrate = 9600

   Data bits = 8

   Parity = None

   Stop bit = 1

4. This brings up the switch's command line interface for user login.
5. Enter username and password to login to the switch.
6. To view the switch configurations use **show commands** and to configure the switch type **config term** to get access to the configuration commands. For help type **?** or **help**.

3-3 1/10 Gigabit Ethernet Switch Firmware

The firmware for the 1/10 Gigabit Ethernet switch module resides on a chip on the PCB.

The switch has internal flash memory in two areas to hold two firmware images. The flash area used for the normal firmware image is referred to as the *normal* area. The other flash area, referred to as the *fallback* area, is used to store the firmware image for fallback purpose in case of a failure to boot from the normal area.

Firmware Upgrading Procedures

The procedures for firmware upgrading and using a fallback firmware image are listed below.

Upgrading Firmware on the Switch using TFTP:

To upgrade the switch's firmware, use the procedure below.

1. Copy the latest firmware to the TFTP root directory on the TFTP server machine.
2. Make sure the upgraded TFTP server and switch both have network reach ability.
3. Login to the Switch CLI, either through Telnet or a serial console port.
4. Type the below command to upgrade the firmware in the normal area:

   ```
   firmware upgrade tftp://<ip-address>/<filename>
   flash:normal
   ```

   Here <*ip-address*> is the IP address of the TFTP server and <*filename*> is the name of the firmware image file.
5. On successful download CLI displays the below string:

   ```
   Firmware download completed successfully.
   ```
6. After a successful download, reboot the switch to use this latest firmware.
7. If the download fails, check the IP address, file name, network connections and configurations to reach the TFTP server.
8. If the switch does not come up after the firmware upgrade due to any incorrect firmware images, boot the switch using a fallback firmware image. Refer the steps in the procedure "Booting using a Fallback Firmware Image:" below to boot the switch using a fallback firmware image.
9. Once the switch is booted with a fallback firmware, repeat the above steps to upgrade with the correct firmware image.
10. On successful upgrade of the latest firmware, it is advised that you upgrade the fallback firmware image also. Follow the steps listed in the procedure "Upgrading Fallback Firmware using TFTP:" below to upgrade the fallback firmware image.

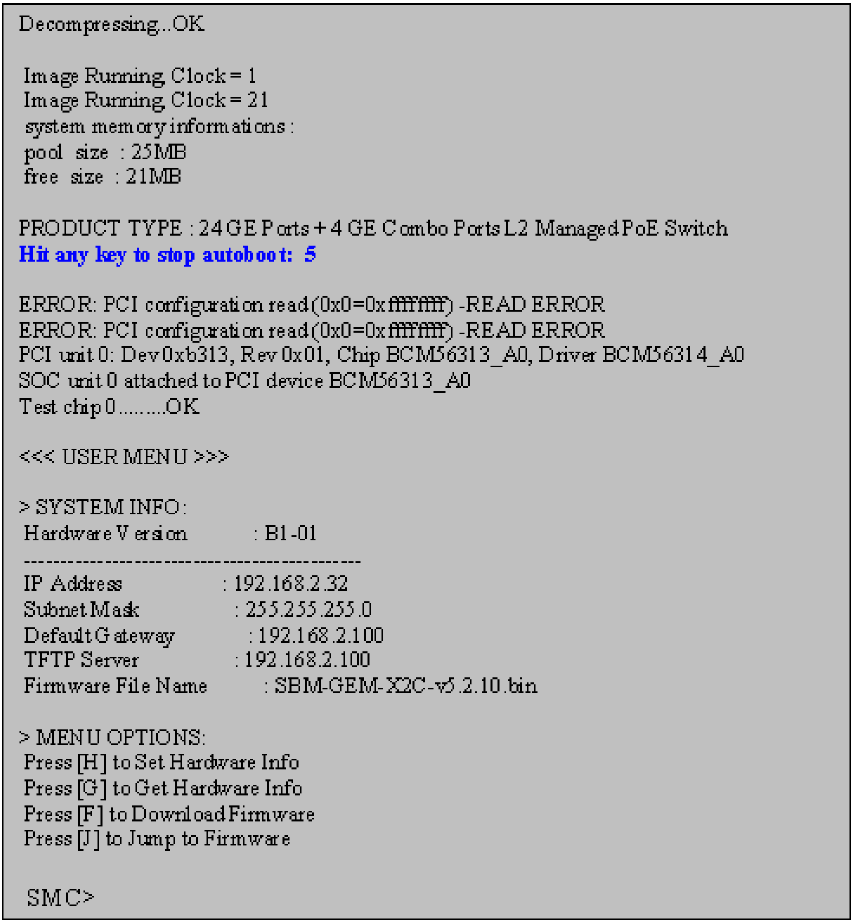
Booting using a Fallback Firmware Image:

Use the procedure below to boot using a fallback firmware image.

1. Reboot the switch by power cycling the switch power.
2. During reboot, press any key when it displays the below text (as shown in Figure 3-7).

```
Hit any key to stop autoboot: 5
```

Figure 3-7. Displayed Text for Rebooting



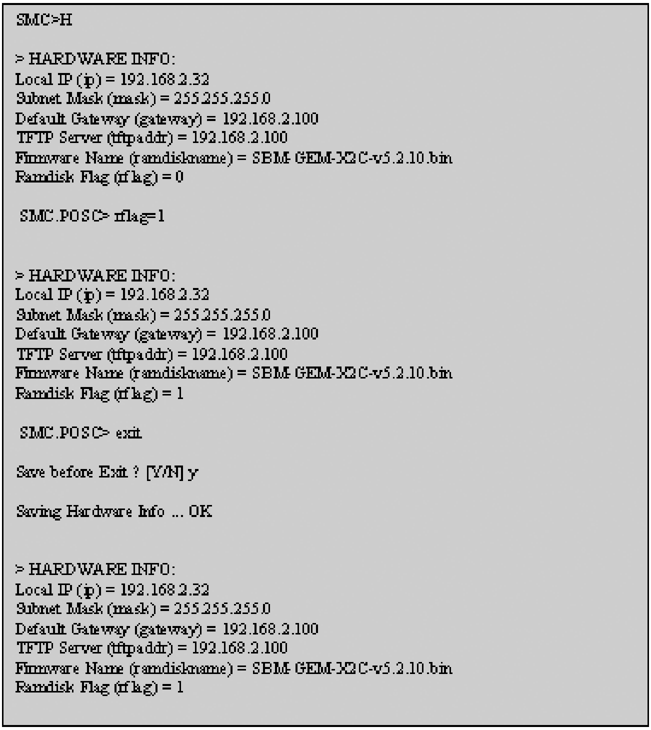
```
Decompressing..OK

 Image Running Clock = 1
 Image Running Clock = 21
 system memory informations :
 pool  size  : 25MB
 free  size  : 21MB

PRODUCT TYPE : 24 GE Ports + 4 GE Combo Ports L2 Managed PoE Switch
Hit any key to stop autoboot:  5

ERROR: PCI configuration read (0x0=0xffffffff) -READ ERROR
ERROR: PCI configuration read (0x0=0xffffffff) -READ ERROR
PCI unit 0: Dev 0xb313, Rev 0x01, Chip BCM56313_A0, Driver BCM56314_A0
SOC unit 0 attached to PCI device BCM56313_A0
Test chip 0.........OK

<<< USER MENU >>>

> SYSTEM INFO :
 Hardware Version           : B1-01
 ------------------------------------------------
 IP Address               : 192.168.2.32
 Subnet Mask                : 255.255.255.0
 Default Gateway              : 192.168.2.100
 TFTP Server                : 192.168.2.100
 Firmware File Name          : SBM-GEM-X2C-v5.2.10.bin

> MENU OPTIONS:
 Press [H] to Set Hardware Info
 Press [G] to Get Hardware Info
 Press [F] to Download Firmware
 Press [J] to Jump to Firmware

 SMC>
```

NOTE: The numbers in the Product Type entry change depending upon the switch you are using.

3. Once the boot sequence is interrupted, it will display menu options as shown in Figure 3-7.

   Use the "H" option to set hardware information by typing the character **H**. This will display the hardware information that can be changed as shown in Figure 3-8.

Figure 3-8. Setting Hardware Information



```
SMC>H

> HARDWARE INFO:
Local IP (ip) = 192.168.2.32
Subnet Mask (mask) = 255.255.255.0
Default Gateway (gateway) = 192.168.2.100
TFTP Server (tftpaddr) = 192.168.2.100
Firmware Name (ramdiskname) = SBM-GEM-X2C-v5.2.10.bin
Ramdisk Flag (rflag) = 0

 SMC.POSC> rflag=1


> HARDWARE INFO:
Local IP (ip) = 192.168.2.32
Subnet Mask (mask) = 255.255.255.0
Default Gateway (gateway) = 192.168.2.100
TFTP Server (tftpaddr) = 192.168.2.100
Firmware Name (ramdiskname) = SBM-GEM-X2C-v5.2.10.bin
Ramdisk Flag (rflag) = 1

 SMC.POSC> exit

Save before Exit ? [Y/N] y

Saving Hardware Info ... OK


> HARDWARE INFO:
Local IP (ip) = 192.168.2.32
Subnet Mask (mask) = 255.255.255.0
Default Gateway (gateway) = 192.168.2.100
TFTP Server (tftpaddr) = 192.168.2.100
Firmware Name (ramdiskname) = SBM-GEM-X2C-v5.2.10.bin
Ramdisk Flag (rflag) = 1
```

4. To choose the boot from a fallback image, type the command: `rflag=1`
5. Type *Save* to save the hardware information.
6. Type *Exit* to exit the hardware information menu.
7. Type **J** to boot the image. In this case it will boot from a fallback image.

8. In case you wish to later move back to a normal image, repeat the above the steps with one difference for step 4, where you should use the command `rflag=0` *instead* of `rflag=1` to boot with a normal firmware image.

Upgrading Fallback Firmware using TFTP:

To upgrade fallback firmware using TFTP, use the procedure below.

1. Copy the latest firmware to the TFTP root directory on the TFTP server machine.
2. Make sure the upgraded TFTP server and switch both have network reach ability.
3. Login to the Switch CLI either through Telnet or a serial console port.
4. Type the below command to upgrade the firmware in the normal area:

   ```
   firmware upgrade tftp://<ip-address>/<filename> flash:fallbackl
   ```

   Here <*ip-address*> is the IP address of the TFTP server and <*filename*> is the name of the firmware image file.
5. On a successful download, the CLI displays the below string:

   ```
   Firmware download completed successfully.
   ```
6. After a successful download, reboot the switch using the fallback image to verify the fallback image. Refer the steps listed above in the procedure "Booting using a Fallback Firmware Image:" above to boot the switch in the fallback image.
7. Once both the normal and fallback image both have latest firmware, continue to use the normal image as directed in step 8 of the procedure "Booting using a Fallback Firmware Image:".

Firmware Failure Recovery Steps

In case you have any issues in booting the switch with either a normal or fallback image, use the procedure below to recover the switch functionality with a correctly working firmware image.

Recovering Switch Functionality with a Firmware Image:

1. Copy the latest firmware to the TFTP root directory on a TFTP server machine.
2. Make sure the upgraded TFTP server and switch both have network reach ability.
1. Reboot the switch by power cycling the switch power.
2. During reboot, press any key when it displays the below text (as shown in Figure 3-7).

   ```
   Hit any key to stop autoboot: 5
   ```
3. Once the boot sequence is interrupted, it will display menu options as shown in Figure 3-7.Use the "H" option to set hardware information by typing the character **H**.

   This will display the hardware information that can be changed as shown in Figure 3-8.

4. Configure the IP address for this switch (only for booting purposes) using the command: `ip=<IP address>`

   For example **ip=192.168.2.3**

5. Configure the subnet mask for this switch IP address using the below command:

   ```
   mask=<subnet mask>
   ```

   For example **mask=255.255.255.0**

6. Configure the TFTP server IP address using the below command:

   ```
   tftpaddr=<TFTP server IP>
   ```

   For example **tftpaddr=192.168.2.100**

7. Configure the gateway address to reach the TFTP server using the below command if the TFTP server is in different network:

   ```
   gateway=<gateway IP>
   ```

   For example **gateway=192.168.2.100**

8. Configure the firmware image file name using the below command:

   ```
   ramdiskname=<filename>
   ```

   For example **ramdiskname= SBM-GEM-X2C-v5.2.10.bin**

9. Type *Save* to save the hardware information.
10. Type *Exit* to exit the hardware information menu.
11. Type **F** to download the firmware image. In this case it will download to the normal image area.
12. On a successful download, the switch displays the below string.

    ```
    Updating the ramdisk image ...
    This may take awhile
    OK
    ```

13. After a successful download, boot the switch to use this latest firmware by typing **J**.
14. If the download fails, check the IP address, file name, network connections and configurations to reach the TFTP server.

Notes

Chapter 4
InfiniBand Module

4-1 Overview

InfiniBand is a switch-based, point-to-point bidirectional serial link network communications architecture. The main function of the SuperBlade InifiniBand switch module is to provide high-speed interconnectivity among the blade modules and external peripherals. This is a hot-pluggable module that must be installed in a double-wide bay at the lower right of the enclosure. Because it occupies one of the bays alternatively used for the CMM, only one InfiniBand module may be installed in the system.

NOTE: For any blade to access the InfiniBand module, it must first have an InfiniBand card installed on its mainboard. See Appendix A for details on the Mezzanine HCA cards that are available for use with the InfiniBand module.

4-2 InfiniBand Module

Figure 4-1. InfiniBand Module

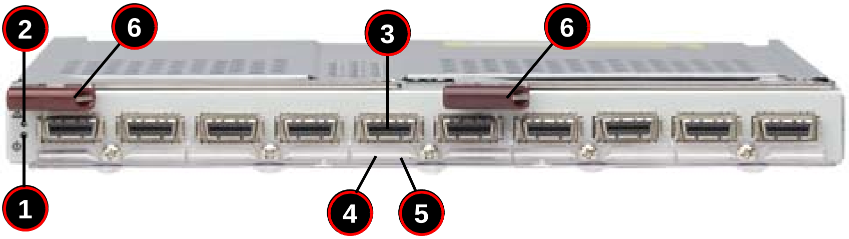


Table 4-1. InfiniBand Module Interface

Item	Description
1	Module Power LED
2	Module Status LED
3	External InfiniBand Port (10 total)
4	Port Physical Link LED (Green)
5	Port Activity LED (Yellow)
6	Module Release Handle

Table 4-2. InfiniBand Module Features

Feature	Description
Internal/External Ports	Internal: 10 4X DDR copper ports (capable of 14) / External: 10 4X DDR copper ports
Bandwidth	4X DDR (20 Gbps) non-blocking architecture for 960 Gbps total bandwidth (24-port)
Latency	160 ns port-to-port switch latency
Remote Management	In-band InfiniBand IBML (InfiniBand Maintenance Link), Command Line Interface (CLI)
Power Consumption	34 - 40W
Operating System	Firmware (upgradable)

Installing/Removing the InfiniBand Module

Before installing the InfiniBand module make sure the cover to the module has been installed before proceeding. Refer to the anti-static precautions described in Chapter 2.

The InifiniBand module must be installed into a double-wide bay. Assuming that you have already created a double-wide bay out of two single-wide bays, continue with the steps below. See the *SuperBlade User’s Manual* for details on setting up double-wide bays in the SuperBlade enclosure.

NOTE: The 10GbE Pass-through module (SBM-XEM-002) also requires the same double-wide bay as the InfiniBand module and may be installed instead of the InfiniBand module in your blade enclosure system. Use the same instructions below for installing either the pass-through module or the InfiniBand module.

Installing the Module

1. Remove the dummy cover from the bay you want to place the module in.
2. Place the module's release handle in the open position.
3. Slide the module into the module bay until it stops.
4. Push the release handle to the closed position.

After the module has been installed and the handle locked, it will power on after a short delay and a POST test will run to verify it is working properly.

Removing the Module

1. Pull out the release handle to the open position.
2. Pull the module out of the bay.
3. Replace immediately with another module or with a dummy module cover to maintain airflow integrity.

InfiniBand Switch LEDs

InfiniBand switch LEDs are listed and described in Table B-4 in Appendix B.

Configuring the InfiniBand Module

Maintenance and configuration of the InfiniBand module within a Windows OS is performed with Mellanox's® WinIB™ software package. WinIB allows you to upgrade the firmware and monitor temperature, voltages, port utilization and other switch parameters.

In a Linux environment, maintenance and configuration of the InfiniBand module is performed with the OFED (OpenFabrics Enterprise Distribution).

Both software packages are available to download on Mellanox's web site:

- WinIB: https://docs.mellanox.com/dm/WinIB/ReadMe.html
- OFED: http://www.mellanox.com/products/ofed.php

Notes

Chapter 5
Ethernet Switches Modules

Your SuperBlade enclosure can include either of two models of Ethernet switch modules or two models of Ethernet pass-through modules installed in it.

The Ethernet switch modules and SBM-GEM-002 Gigabit pass-through module can only be installed in the upper and/or lower left module bays, whereas the SBM-XEM-002 10-Gigabit pass-through module must be installed in a double-wide slot in the enclosure instead of an InfiniBand Module. The InfiniBand module is discussed in Chapter 4.

5-1 SBM-GEM-001 Gigabit Ethernet Switch Module

The SBM-GEM-001 Gigabit Ethernet switch module is a layer 2 Ethernet switch. It includes ten 1-Gb/s uplink (RJ45) ports and fourteen 1-Gb/s downlink ports for the SuperBlade's LAN interfaces. The Gigabit Ethernet switch module has two internal Ethernet paths to the CMM(s). The switch is used to provide a connection between the Ethernet controller integrated on the mainboard and an external Ethernet device. This is a hot-pluggable module.

Figure 5-1. SBM-GEM-001 Gigabit Ethernet Switch Module

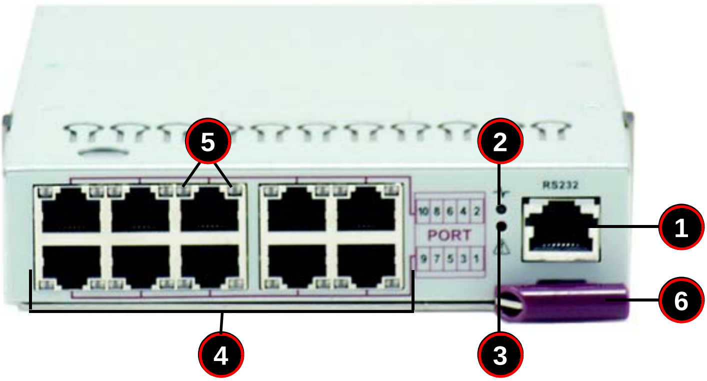


Table 5-1. SBM-GEM-001 Gigabit Ethernet Switch Module Interface

Item	Description
1	RS232 (COM) Serial Port
2	“Initiation OK” LED
3	Module Fault LED
4	RJ-45 Ethernet Ports
5	Ethernet Port Status LEDs
6	Module Release Handle

Table 5-2. GEM-001 Gigabit Ethernet Switch Module Features

Feature	Description
Chipset	Broadcom BCM5345M
Internal/External Ports	Internal: Fourteen 1 Gbps downlink ports / External: Ten 1 Gbps RJ45 uplink ports
Bandwidth	24 Gbps non-blocking
Trunking	Link aggregation support
Jumbo Frame Support	Up to 9 kb
Remote Management	Browser-based management
Protocols	Spanning Tree, Rapid Spanning Tree, Multiple Spanning Tree (802.1d.1w)
Power Consumption	~30.6W
Operating System	Firmware (see Section 3-3: 1/10 Gigabit Ethernet Switch Firmware on page 3-9 for details)

LED Indicators

LED indicators for the SBM-GEM-001 Gigabit Ethernet switch module are listed and described in Table B-1 of Appendix B.

Ports

The SBM-GEM-001 Gigabit Ethernet switch module contains several front-mounted ports as described below in Table 5-3.

Table 5-3. SBM-GEM-001 Gigabit Ethernet Switch Module Ports

Port	Description
RS-232 Compatible Serial Port	This port accepts an connector cable for uplink using RS-232 connection to a console.
RJ-45 Ethernet Ports	These two ports accept a RJ-45 connector for 1-Gbps uplink communications.

5-2 SBM-GEM-X2C 1/10 Gb Ethernet Switch Module

The SBM-GEM-X2C 1/10 Gigabit Ethernet switch module is a layer 2/3 Ethernet switch. It includes three 10-Gb/s uplink ports (two CX4 and one SPF+), two 1-Gb/s uplink RJ-45 uplink ports and fourteen 1-Gb/s downlink ports for the SuperBlade's LAN interfaces. The Ethernet switch module has two internal Ethernet paths to the CMM(s). The switch is used to provide a connection between the Ethernet controller integrated on the mainboard and an external Ethernet device. This is a hot-pluggable module.

Figure 5-2. SBM-GEM-X2C 1/10 Gigabit Ethernet Switch Module Ports and Indicators

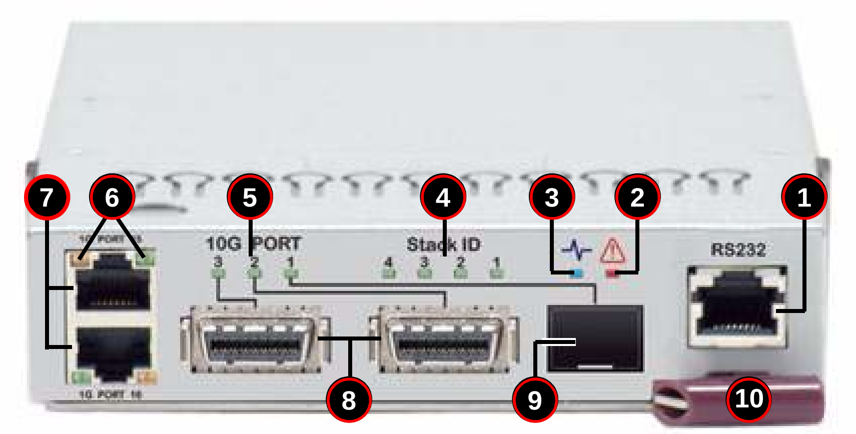


Table 5-4. SBM-GEM-X2C 1/10 Gigabit Ethernet Switch Module Interface

Item	Description
1	RS-232 (COM) Serial Port
2	Module Fault LED
3	“Initiation OK” LED
4	Stack ID LEDs (4)
5	10-Gbps Uplink Port Status LEDs (3)
6	1-Gbps RJ-45 Uplink Port Status LEDs (Link/Activity and Speed)
7	1-Gbps RJ-45 Uplink Ports (2)
8	CX4 10-Gbps Uplink Ports (2)
9	SFP+ 10-Gbps Uplink Port
10	Module Release Handle

Table 5-5. SBM-GEM-X2C 1/10 Gigabit Ethernet Switch Module Features

Feature	Description
Chipset	Broadcom BCM56313
Internal/External Ports	Internal: Fourteen 1-Gbps downlink ports External: Two 1-Gbps RJ45 uplink ports and Three 10-Gbps uplink ports (1 SPF+, 2 CX4)
Bandwidth	24 Gbps non-blocking
Trunking	Link aggregation support
Jumbo Frame Support	Up to 9 kb
Remote Management	Browser-based management
Protocols	Spanning Tree, Rapid Spanning Tree, Multiple Spanning Tree, IGMP snooping and 802.1x
Power Consumption	~30.6W
Operating System	Firmware (see Section 3-3: 1/10 Gigabit Ethernet Switch Firmware on page 3-9 for details)

LED Indicators

LED indicators for the SBM-GEM-X2C 1/10 Gigabit Ethernet switch module are listed and described in Table B-2 of Appendix B.

Ports

The SBM-GEM-X2C 1/10 Gigabit Ethernet switch module contains several front-mounted ports as described below in Table 5-6.

Table 5-6. SBM-GEM-X2C Ports

Port	Description
RS-232 Compatible Serial Port	This port accepts an connector cable for uplink using RS-232 connection to a console.
RJ-45 Ethernet Ports	These two ports accept a RJ-45 connector for 1-Gbps uplink communications.
CX4 10-Gbps Ports	These two ports accept a CX4 10GBase-CX4 connectors for 10-Gbps uplink communications.
SFP+ 10-Gbps Port	This port accepts a SFP+ Direct Attach connector for 10-Gbps uplink communications.

5-3 GEM-002 Gb Ethernet Pass-through Module

The SBM-GEM-002 Gigabit pass-through module is a non-configurable pass through module that includes fourteen (fourteen) 1-Gb/s uplink (RJ45) ports and fourteen 1-Gb/s downlink ports for the SuperBlade's LAN interfaces. This Ethernet module has two internal Ethernet paths to the CMM(s). The switch is used to provide a connection between the Ethernet controller integrated on the mainboard and an external Ethernet device.

Unlike the SBM-GEM-001 Gigabit Ethernet switch module, this is a pass-through module and is not configurable. With this module Blade 1 would be connected directly to port 1, Blade 2 to port 2 and so on. If you are only connected to 10 blades then ports 11 through 14 are not connected.

Temperature and voltage of the pass-through module are read through the CMM module. The LED's of the pass-through for a blade are only lit when the blade is on. Like the SBM-GEM-001 Gigabit Ethernet switch module, this pass-through module is a hot-pluggable module.

NOTE: The SBM-GEM-001 Gigabit pass-through module **must** be connected to another Gigabit Ethernet switch module in order to operate. If you connect it to a 10/100 switch, it will not work.

Figure 5-3. SBM-GEM-001 Gigabit Pass-through Module

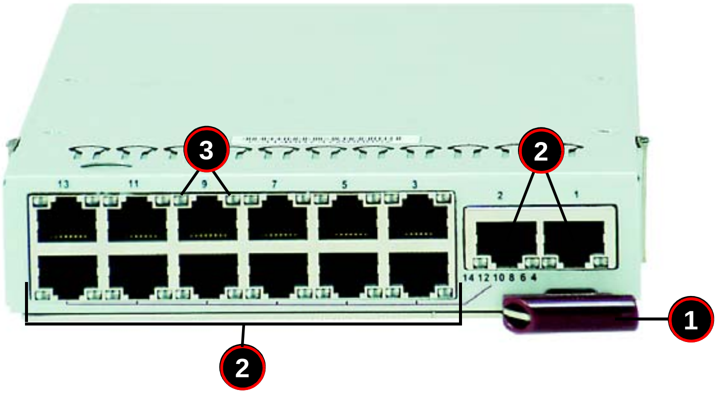


Table 5-7. SBM-GEM-002 Gigabit Pass-through Module Interface

Item	Description
1	Module Release Handle
2	RJ-45 Ethernet Ports
3	Ethernet Port Status LEDs

Table 5-8. SBM-GEM-002 Gigabit Pass-through Module Features

Feature	Description
Internal/External Ports	Internal: Fourteen 1 Gbps downlink ports / External: fourteen 1 Gbps RJ45 uplink ports
Remote Management	NA
Protocols	NA
Power Consumption	~30.6W

5-4 SBM-XEM-002 1/10 Gb Ethernet Pass-through Module

The SBM-XEM-002 10-Gigabit pass-through module is a non-configurable pass through module that includes 14 (fourteen) 10-Gb/s uplink (SFP+) ports and 14 10-Gb/s downlink (XAUI) ports for the SuperBlade's LAN interfaces.

The SBM-XEM-002 10-Gigabit pass-through module must be installed in a double-wide slot in the enclosure. It is installed instead of the InfiniBand module. See the *SuperBlade User’s Manual* for details.

NOTE: For any blade to access the 10-Gigabit pass-through module, it must first have an AOC-IBH-003 InfiniBand card installed on its mainboard with the appropriate 10-GbE firmware loaded on it. See Appendix A for details on the AOC-IBH-003 card.

Unlike the SBM-GEM-001 or SBM-GEM-X2C Ethernet switch modules this is a pass-through module, and just like the GEM-002 Gb Ethernet Pass-through Module model described above, it is not configurable.

With this module Blade 1 would be connected directly to port 1, Blade 2 to port 2 and so on. If you are connected to 10 blades then ports 11 through 14 are not connected.

Temperature and voltage of the pass-through module are read through the CMM module. The LED’s of the pass-through for a blade are only lit when the blade is on. Like the other switches, this pass-through module is a hot-pluggable module.

NOTE: The SBM-XEM-002 10-Gigabit pass-through module **must** be connected to another 10 Gigabit Ethernet switch module in order to operate. If you connect it to a 10/100 switch, it will not work.

Figure 5-4. SBM-XEM-002 10-Gigabit Pass-through Module

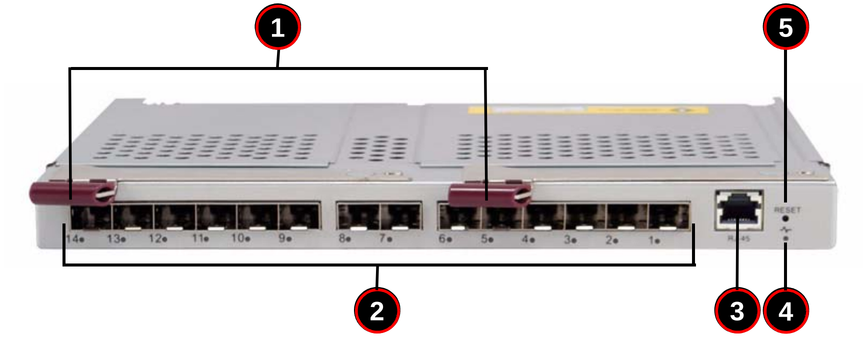


Table 5-9. SBM-XEM-002 10-Gigabit Pass-through Module Interface

Item	Description
1	Module Release Handles
2	10-Gbp/s Uplink SFP+ Ports
3	RJ-45 Ethernet Port (Reserved for Future Use)
4	“Initiation OK” LED (Reserved for Future Use)
5	Reset Button (Reserved for Future Use)

Table 5-10. SBM-XEM-002 10-Gigabit Pass-through Module Features

Feature	Description
Internal/External Ports	Internal: Fourteen 10-Gbps downlink ports to internal 10-Gbps Mezzanine Add-on Card / External: fourteen 10-Gbps SFP+ uplink ports
Remote Management	NA
Protocols	NA
Power Consumption	~30.6W

Notes

Chapter 6
1-Gb Ethernet Switch Firmware

The firmware configuration system for the SBM-GEM-001 Gigabit Ethernet switch module is covered in this chapter.

6-1 SBM-GEM-001 Firmware Features and Functions

Table 6-1 provides a summary of features and functions for the Gigabit Ethernet switch module firmware.

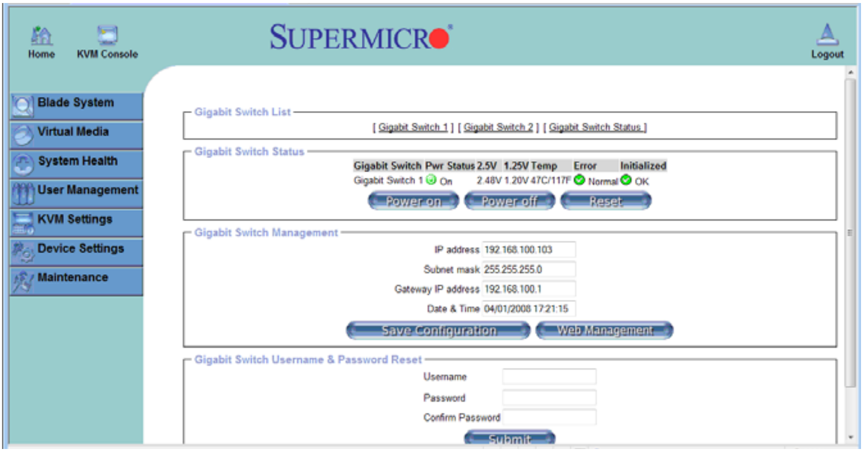
Table 6-1. SBM-GEM-001 Software Features and Functions

Item	Functions	Features
Basic Functions	Throughput	24Gbps (14 internal 1Gbps + 10 external 1Gbps)
	Latency	Average 2.65usec (frame size 1518 bytes)
	Switching mode	Store-and-forward
	MAC address learning table size	8192 entries
	MAC address learning	IVL (Independent VLAN learning)
	Jumbo frame support	Up to 9216 bytes
	Flow control	802.3x pause frame flow control
	Broadcast Storm Control	Support per-system control types and rates
	Ingress rate control	Support per-port rate control
	Port mirroring	A copy of ingress and egress data of the monitored port is sent to snooping port
Scalability	Trunking (Static Link Aggregation)	Increase bandwidth and redundancy. Up to 8 ports per trunk, 4 trunks per switch.
Redundancy	IEEE802.1D STP IEEE802.1W RSTP	To make a loop-free and redundant network using RSTP. RSTP is upward compatible with legacy STP.
VLAN	IEEE802.1q VLAN	Supports 256 VLAN groups.
QoS	IEEE802.1p QoS	Supports 802.1p priority queuing and 4 priority queues per port.
Multicast	IGMP v1/v2 Snooping	Prevents unnecessary forwarding of multicast packets to reduce multicast traffic.
Management	SNMP agent	Supports SNMP v1 and v2c
	Http server	Forwarding

To configure the switch, select the switch you want in the SWITCH STATUS screen in the Web-based Management Utility. See the *Web-based Management Utility User’s Manual* for details.

A SWITCH STATUS screen will appear (Figure 6-1) in your browser.

Figure 6-1. Switch Status Screen


Home
KVM Console
SUPERMICRO
Logout
Blade System
Virtual Media
System Health
User Management
KVM Settings
Device Settings
Maintenance
Gigabit Switch List
[Gigabit Switch 1] [Gigabit Switch 2] [Gigabit Switch Status]
Gigabit Switch Status
Power on
Power off
Reset
Gigabit Switch Management
Save Configuration
Web Management
Gigabit Switch Username & Password Reset
Submit

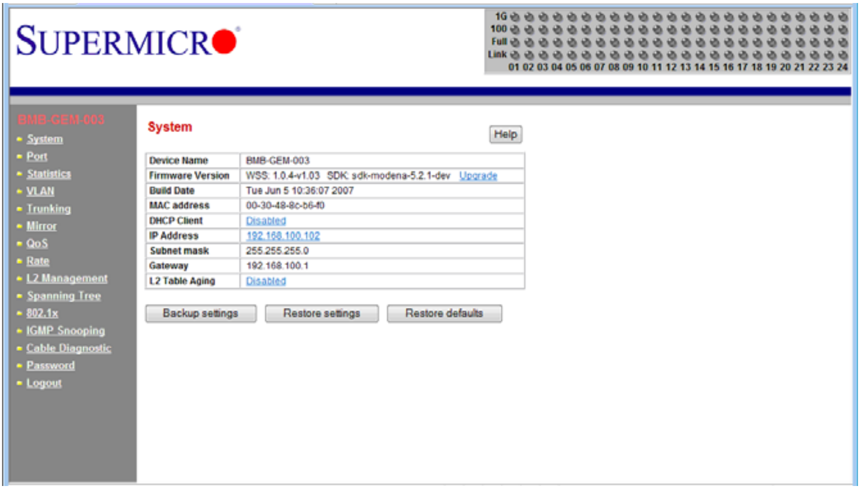
Gigabit Switch	Pwr Status	2.5V	1.25V	Temp	Error	Initialized
Gigabit Switch 1	On	2.48V	1.20V	47C/117F	Normal	OK

IP address 192.168.100.103
Subnet mask 255.255.255.0
Gateway IP address 192.168.100.1
Date & Time 04/01/2008 17:21:15

Username
Password
Confirm Password

In this screen, either select WEB MANAGEMENT or type the IP address of the switch (usually **192.168.100.102**) in the address field of your web browser. The SYSTEM MANAGEMENT screen shown in Figure 6-2 appears.

Figure 6-2. Switch System Management Screen

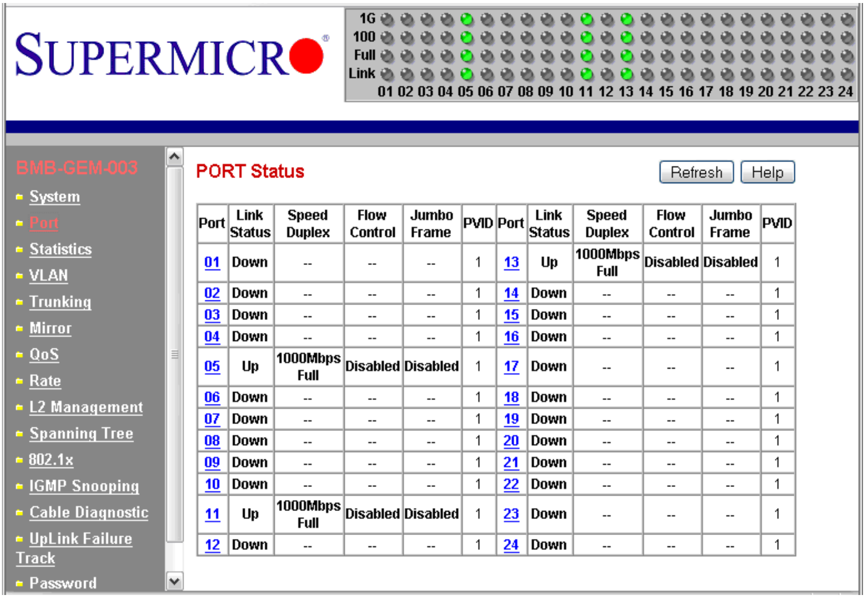

SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Password
Logout
System
Help
Backup settings
Restore settings
Restore defaults

Device Name	BMB-GEM-003
Firmware Version	WSS: 1.0.4-v1.03 SDK: sdk-modena-5.2.1-dev Upgrade
Build Date	Tue Jun 5 10:36:07 2007
MAC address	00-30-48-8c-b6-f0
DHCP Client	Disabled
IP Address	192.168.100.102
Subnet mask	255.255.255.0
Gateway	192.168.100.1
L2 Table Aging	Disabled

6-1 Port Status

The PORT STATUS screen provides a status overview of the switch's 24 ports. As shown in Figure 6-3, it includes link, speed, duplex, flow control, jumbo frame and PVID. In this screen click on PORT on the left menu bar. The port status will show up. To retrieve and update to the latest status, click the REFRESH button.

Figure 6-3. Port Status Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
UpLink Failure Track
Password
Refresh
Help

PORT Status

Port	Link Status	Speed Duplex	Flow Control	Jumbo Frame	PVID	Port	Link Status	Speed Duplex	Flow Control	Jumbo Frame	PVID
01	Down	--	--	--	1	13	Up	1000Mbps Full	Disabled	Disabled	1
02	Down	--	--	--	1	14	Down	--	--	--	1
03	Down	--	--	--	1	15	Down	--	--	--	1
04	Down	--	--	--	1	16	Down	--	--	--	1
05	Up	1000Mbps Full	Disabled	Disabled	1	17	Down	--	--	--	1
06	Down	--	--	--	1	18	Down	--	--	--	1
07	Down	--	--	--	1	19	Down	--	--	--	1
08	Down	--	--	--	1	20	Down	--	--	--	1
09	Down	--	--	--	1	21	Down	--	--	--	1
10	Down	--	--	--	1	22	Down	--	--	--	1
11	Up	1000Mbps Full	Disabled	Disabled	1	23	Down	--	--	--	1
12	Down	--	--	--	1	24	Down	--	--	--	1

The PORT column indicates the port number of the switch.

The LINK STATUS column shows the current link status (either up or down) for each port.

The SPEED DUPLEX column indicates the link speed and duplex status for each port when it is linked up. If the link is down, there is no status shown on SPEED DUPLEX.

The FLOW CONTROL column indicates that the state of flow control is either disabled or enabled for each port when it is linked up.

The JUMBO FRAMES column indicates that the state of jumbo frame support is either disabled or enabled for each port when it is linked up.

The PVID column shows the current default port VLAN ID for each switch port.

NOTE: In the figures BMB-GEM-003 is the number of the Gigabit switch board; it is not a separate model of switch.

Port VLAN ID (PVID)

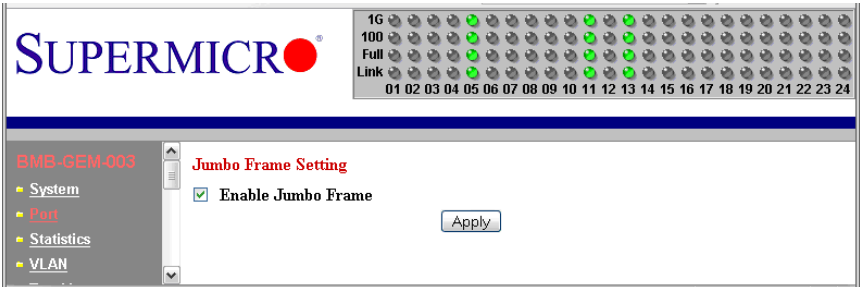
The PVID is used in a port-based VLAN to allow assigning a port to belong to a VLAN. A VLAN can then be configured to be a group of member ports. This switch is an 802.1q tag-aware switch. If no VLANs are defined on the switch, every port will be assigned to a default VLAN which has VLAN ID 1. Each port will have PVID equal to 1.

If incoming frames are untagged, they will be tagged with the default PVID of the port on which they are received. The destination MAC address of the frame and the PVID will be used for forwarding decisions. An incoming tagged frame will be kept intact. The switch will use the VID in the frame and the destination MAC address for the forwarding decision. Look for a more detailed description in the VLAN section.

Jumbo Frames Support

To modify the jumbo frames support for all of ports, click on the EDIT OF JUMBO FRAME setting (as shown in Figure 6-3) to link to the JUMBO FRAME SETTING screen (Figure 6-4). Click the ENABLE JUMBO FRAME check box to enable/disable jumbo frame support.

Figure 6-4. Jumbo Frame Setting Screen



Jumbo Frame Setting

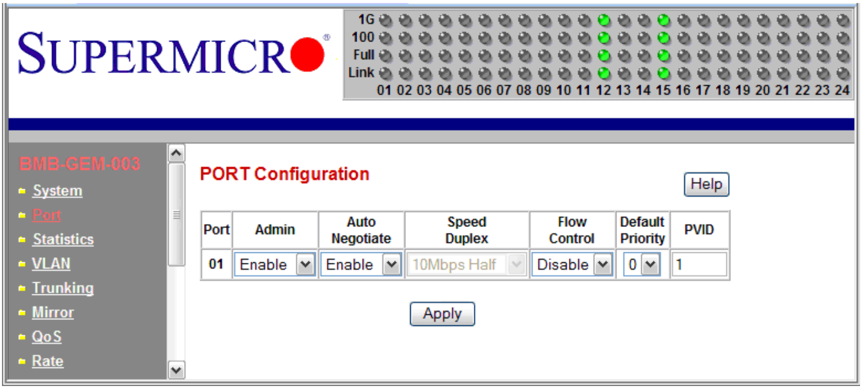
☑ Enable Jumbo Frame

When a jumbo frame is enabled, the maximum length of a frame that can be forwarded by a switch is **9216**. When the jumbo frame is disabled, the maximum length of a frame that can be forwarded by a switch is **1518**.

Port Configuration

To modify the configuration of each port, click on the port number in the PORT STATUS screen (see Figure 6-3). The PORT CONFIGURATION screen appears (Figure 6-5). It is used to define speed and duplexing for a port when auto-negotiation is off. When auto-negotiation is on, this data is negotiated with the link partner.

Figure 6-5. Port Configuration Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
Help
Apply

PORT Configuration

Port	Admin	Auto Negotiate	Speed Duplex	Flow Control	Default Priority	PVID
01	Enable	Enable	10Mbps Half	Disable	0	1

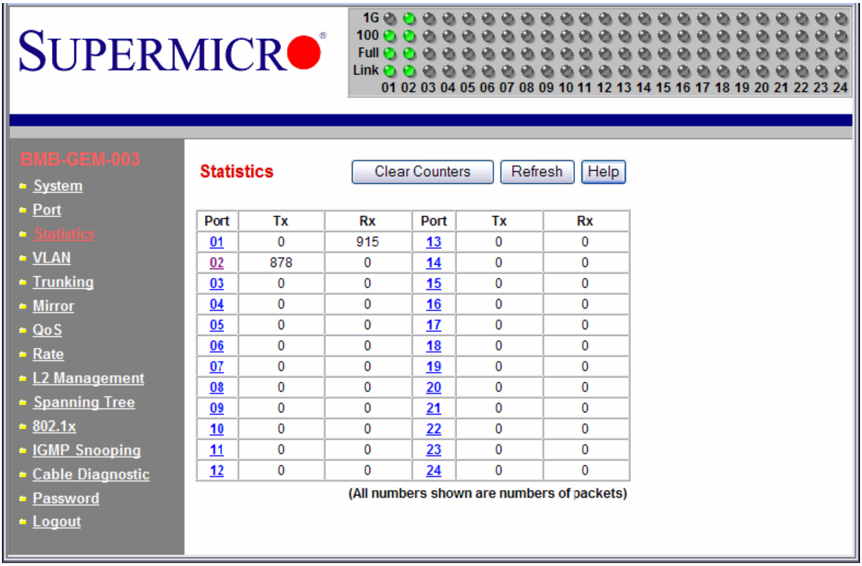
Table 6-2. Port Configuration Screen Controls

Control	Description
Port	Specifies the port number to control.
Admin	Enables or disables the port.
Auto Negotiation	Enables or disables auto-negotiation. When auto-negotiation is enabled, the port negotiates with the link partner and works out speed, duplex operation, and flow control. When auto-negotiation is disabled, port speed, duplex operation, and flow control is programmable by the user.
Duplex Speed	Indicates duplex state and speed of the port.
Flow Control	Turns flow control on or off. When flow control of the port is on, it sends out a Pause frame or a Jam Packet if it is over-subscribed. When this port receives a Pause Frame or Jam Signal, it will postpone sending for a certain period to send out a frame by IEEE definition.
Default Priority	Assigns packet priority for packets arriving at the port without tagging. If the packet comes in with tag or priority-tag, the priority is retrieved from the priority field of the tag.
PVID	Assigns default port VLAN ID for the port. When the port receives a frame which is untagged or priority tagged (VLAN ID = 0), the PVID will be used for forwarding decision for these two kind of frame.

6-2 Statistics

The STATISTICS screen displays the total number of packets transmitted or received on each port as shown in Figure 6-6. Click on the REFRESH button to retrieve the current count and update the screen. Click on the CLEAR COUNTERS button to reset the count to zero for each port. Click on each port number to retrieve detail statistic information for that particular port.

Figure 6-6. Statistics Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Password
Logout
Statistics
Clear Counters
Refresh
Help

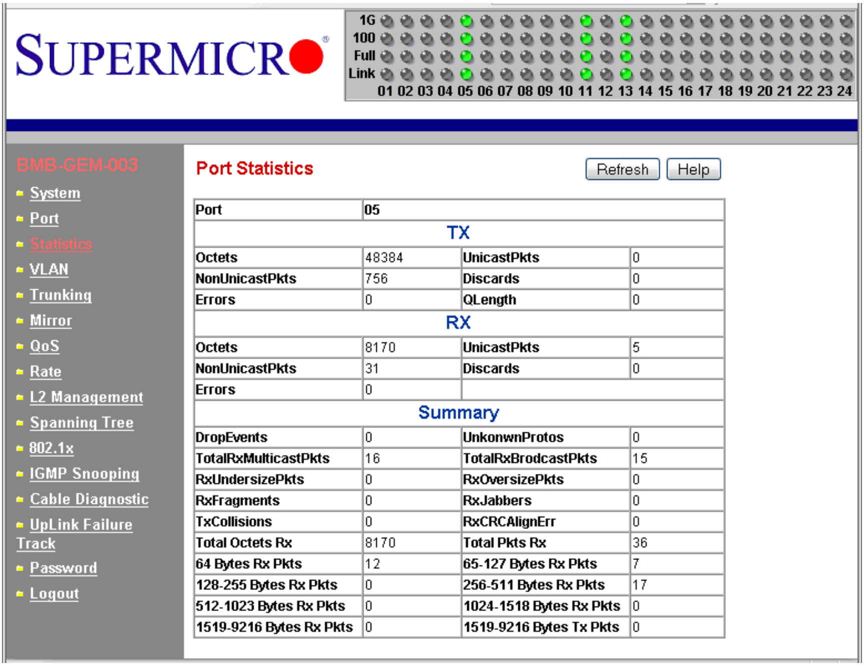
Port	Tx	Rx	Port	Tx	Rx
01	0	915	13	0	0
02	878	0	14	0	0
03	0	0	15	0	0
04	0	0	16	0	0
05	0	0	17	0	0
06	0	0	18	0	0
07	0	0	19	0	0
08	0	0	20	0	0
09	0	0	21	0	0
10	0	0	22	0	0
11	0	0	23	0	0
12	0	0	24	0	0

(All numbers shown are numbers of packets)

Port Statistics

The PORT STATISTICS screen (Figure 6-7) displays detailed traffic statistics for each port to help a user analyze network operations such as traffic bytes, errors, number of packets, etc. These traffic statistics are shown in Table 6-3.

Figure 6-7. Port Statistics Screen


1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
UpLink Failure Track
Password
Logout
Refresh
Help

Port Statistics

Port	05		
TX			
Octets	48384	UnicastPkts	0
NonUnicastPkts	756	Discards	0
Errors	0	QLength	0
RX			
Octets	8170	UnicastPkts	5
NonUnicastPkts	31	Discards	0
Errors	0		
Summary			
DropEvents	0	UnkonwnProtos	0
TotalRxMulticastPkts	16	TotalRxBrodcastPkts	15
RxUndersizePkts	0	RxOversizePkts	0
RxFragments	0	RxJabbers	0
TxCollisions	0	RxCRCAlignErr	0
Total Octets Rx	8170	Total Pkts Rx	36
64 Bytes Rx Pkts	12	65-127 Bytes Rx Pkts	7
128-255 Bytes Rx Pkts	0	256-511 Bytes Rx Pkts	17
512-1023 Bytes Rx Pkts	0	1024-1518 Bytes Rx Pkts	0
1519-9216 Bytes Rx Pkts	0	1519-9216 Bytes Tx Pkts	0

Table 6-3. Port Statistics Screen Controls

Control	Description
TX	Displays traffic information on outgoing frames.
Octets	Indicates total octets transmitted.
UnicastPkts	This indicates transmitted unicast packets.
NonUnicastPkts	This indicates transmitted non-unicast packets.
Discards	This indicates discarded packets.
Errors	This indicates Excessive Collision packets.
QLength	This indicates count of packets currently buffered.
RX	Displays traffic information on incoming frames.
Octets	Indicates total octets received.
UnicastPkts	Indicates received unicast packets.
NonUnicastPkts	Indicates received non-unicast packets.
Discards	Indicates discarded packets.

Table 6-3. Port Statistics Screen Controls (Continued)

Control	Description
Errors	Indicates undersize/fragment/FCS error/oversized errors with good FCS packets.
Summary	Displays traffic information by packet type, type of error and frame size range.
DropEvents	Indicates events in which packets are dropped due to a lack of resources. This includes events where the receiving shared buffer is full, and events when a transmission failure is due to a late collision.
UnknownProtos	Indicates received packets using unknown protocols, such as packets that are dropped due to reasons other than drop events and storm limits.
TotalRxMulticastPkts	Indicates the total received multicast packets.
TotalRxBrodcastPkts	Indicates the total received broadcast packets.
RxUndersizePkts	Indicates received packets with a length that is less than the minimum packet size.
RxOversizePkts	Indicates received packets with length more than the maximum packet size.
RxFragments	Indicates received packets (length 10 ~ 63 bytes) with an invalid FCS or an alignment error.
RxJabbers	Indicates received packets (invalid FCS or code error) that exceed the counter maximum size to the maximum received frame length.
TxCollisions	Indicates the total transmitted collision packets.
RxCRCAlignErr	Indicates received packets (invalid FCS) that have a length between 64 bytes and the counter maximum size.
Total Octets Rx	Indicates total number of octets of data received (excluding framing bits, but including FCS bytes).
Total Pkts Rx	Indicates total received packet count (including all bad packets, unicast, broadcast, multicast and MAC control packets).
64 Bytes Rx Pkts	Indicates received packets with a packet length that is less than or equal to 64 bytes.
65-127 Bytes Rx Pkts	Indicates received packets with a packet length that is between (includes) 65 ~ 127 bytes.
128-255 Bytes Rx Pkts	Indicates received packets with a packet length that is between (includes) 128 ~ 255 bytes.
256-511 Bytes Rx Pkts	Indicates received packets with a packet length that is between (includes) 256 ~ 511 bytes.
512-1023 Bytes Rx Pkts	Indicates received packets with a packet length that is between (includes) 512 ~ 1023 bytes.
1024-1518 Bytes Rx Pkts	indicates received packets with a packet length that is between (includes) 1024 ~ 1518 bytes.

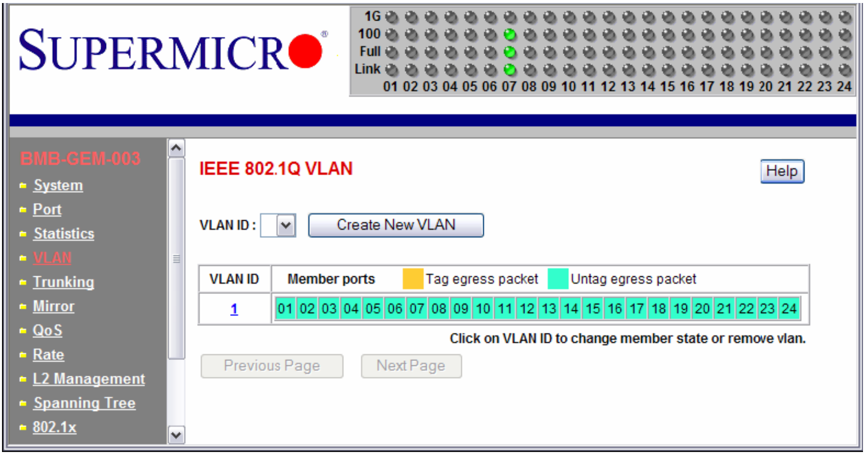
Table 6-3. Port Statistics Screen Controls (Continued)

Control	Description
1519-9216 Bytes Rx Pkts	indicates received packets with a packet length that is between (includes) 1519 ~ 9216 bytes.
1519-9216 Bytes Tx Pkts	indicates transmitted packets with a packet length that is between (includes) 1519 ~ 9216 bytes.

6-3 VLAN

Virtual LAN (VLAN) is a technology used to create several independent logical networks in a physical network. Hence, it reduces the size of the broadcast domain in a network. Packets are forwarded within the same VLAN. It can also be used to combine several network segments into a same group of networks that appear as a single LAN to create a flexible and extensible LAN network system. The VLAN screen is shown in Figure 6-8.

Figure 6-8. VLAN Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IEEE 802.1Q VLAN
Help
VLAN ID :
Create New VLAN
Previous Page
Next Page

VLAN ID	Member ports 🟨 Tag egress packet 🟩 Untag egress packet
1	01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Click on VLAN ID to change member state or remove vlan.

The switch supports an 802.1Q tagging VLAN. All packets entering the port of a switch only can be forwarded to a port that is a member of same VLAN. The ingress untagged frames are tagged by a per-port default tag (PVID). The forwarding decision is based on this assigned default PVID. If the ingress frames are 802.1Q tagged, the port won’t alter the frames but will keep the frame’s VLAN information intact. Tagged frames are forwarded according to a VID contained within the tag.

The switch also supports ingress filtering. The switch will examine the VLAN information in the incoming packets header to determine whether to drop or forward the packets. If the incoming frame has tagged VLAN information, the ingress port will check itself to see if it is a member of the tagged VLAN. If it is not, the frame will be dropped. If it’s a member of the tagged VLAN, then it will check the destination port to see if it is a member of the tagged VLAN. If not, the frame is dropped. If the destination is a member of the VLAN, the frame is forwarded to the destination port. If the incoming frame is not tagged with VLAN information, the ingress port will use PVID as the VLAN ID. If the destination port is not in the same VLAN, the frame is dropped.

The switch is initially configured to have one VLAN and its VID is 1. This VLAN is called the default VLAN. By default, all ports are initially assigned to the default VLAN.

Frames can not be forwarded across VLANs. Frames, whether they are unicast, multicast or broadcast, cannot flow from one VLAN to another VLAN unless there is a VLAN routing device to bridge them.

The switch also allows a user to configure the egress packets to either tagging or untagging. The untagging feature of 802.1Q VLAN allows a user to hook up the port to a legacy switch that doesn't recognize 802.1Q tagging header in the packet. Also, the tagging feature allows VLANs to span into multiple 802.1Q compliant switches through physical connections between switches.

6-4 Configuring a Static VLAN

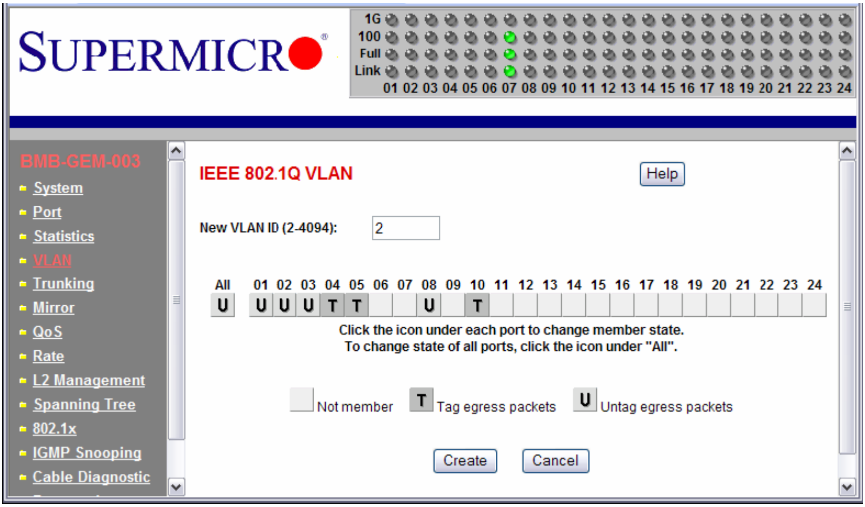
The switch currently supports static VLANs only. To configure the VLAN, click on the VLAN folder at the left-hand side bar. The IEEE802.1Q VLAN screen should appear as shown in Figure 6-8. It lists the entire current VLAN configuration and also allows a user to create a new VLAN or modify port membership of a VLAN. The MEMBER PORTS indicates the number of member ports of the VLAN. There are two color symbols for each port to indicate tagging or untagging of packets egress from the port:

- Orange: Indicates a tagged egress packet
- Teal: Indicates an untagged egress packet

Creating a New VLAN

1. Click on the CREATE NEW VLAN button. The screen as shown in Figure 6-9 should appear.

Figure 6-9. Creating a New VLAN


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
IEEE 802.1Q VLAN
Help

New VLAN ID (2-4094): 2

All	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
U	U	U	U	T	T			U		T														

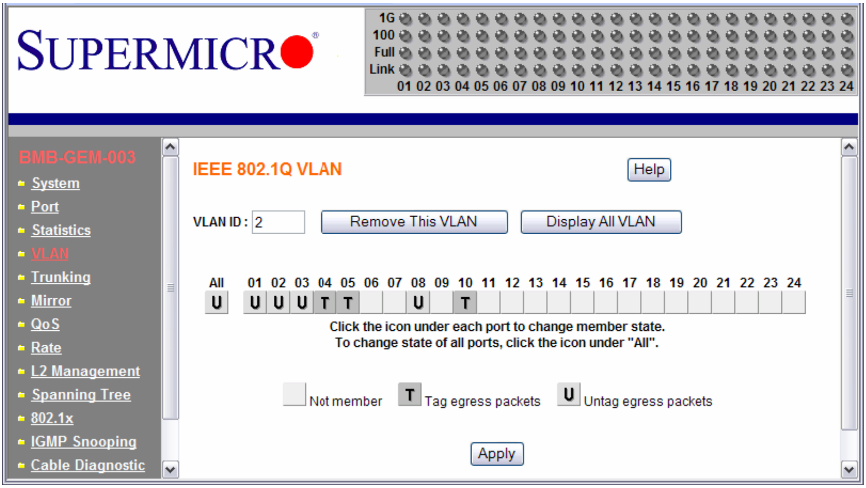
Click the icon under each port to change member state.
To change state of all ports, click the icon under "All".

Not member
T Tag egress packets
U Untag egress packets
Create
Cancel

2. Assign a new VLAN ID, then click on the icon under each port to change the member state. There are three states to choose from: untag egress packets, tag egress packets and not member of a VLAN.

3. Click on the CREATE button to create the new VLAN. A new VLAN is shown in Figure 6-10.

Figure 6-10. New VLAN Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
IEEE 802.1Q VLAN
Help
Remove This VLAN
Display All VLAN
Apply

VLAN ID : 2

All	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
U	U	U	U	T	T			U		T														

Click the icon under each port to change member state.
To change state of all ports, click the icon under "All".

☐ Not member T Tag egress packets U Untag egress packets

4. If you want to remove this VLAN, click on the REMOVE THIS VLAN button. Click on DISPLAY ALL VLAN to list all of current VLAN configuration.

5. To change the port member state or remove a VLAN, select the VLAN either from the VLAN ID drop down menu or by clicking on the VLAN ID in the table in Figure 6-8. This screen shows the current member state of the selected VLAN. Users can modify the port member state, apply a change or remove the VLAN.

6-5 Trunking

Trunking aggregates multiple physical ports link into a single trunk to provide a single logical high-speed pipeline link. This is useful for switch-to-switch, switch-to-server and switch-to-router applications. The SuperMicro Gigabit Ethernet switch supports static type link aggregations. It uses a distribution algorithm to balance traffic between trunk members. This aggregates the bandwidth of the trunk. The switch considers a trunk as a single port entity regardless of the trunk composition.

The switch supports up to four separate trunks. Each trunk consists of 2 to 8 ports. A port in one trunk cannot simultaneously be in another trunk. Link aggregation is supported only on point-to-point links with the MAC operating in full duplex mode. All links in a trunk must operate at the same data rate.

The links within a trunk should have an equal amount of traffic to achieve maximum efficiency in a multiple-link trunk. Thus, some sort of load balancing among the links in a trunk is employed. One requirement for load balancing is that the frames being transmitted must not be out of order. The switch performs load balancing based on a distribution algorithm that used the following information to assign conversation to ports:

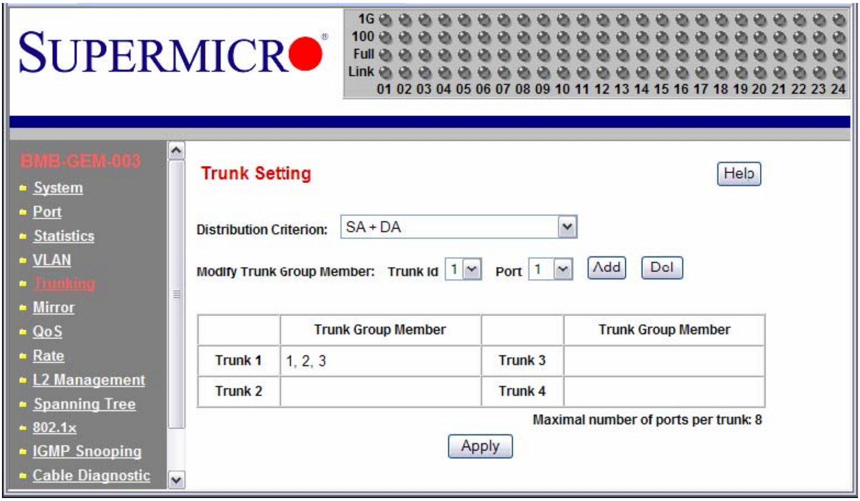
- MAC source address
- MAC destination address
- MAC source address + destination address

The user can choose one of the distribution criteria from the configuration screen as shown in Figure 6-11.

Configuring the Trunk

1. Click on TRUNKING folder on left-hand side bar to bring up the TRUNK SETTING screen, as shown in Figure 6-11.

Figure 6-11. Trunking Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Help
Add
Del
Apply

Trunk Setting

Distribution Criterion: SA + DA

Modify Trunk Group Member: Trunk Id 1 Port 1

	Trunk Group Member		Trunk Group Member
Trunk 1	1, 2, 3	Trunk 3	
Trunk 2		Trunk 4	

Maximal number of ports per trunk: 8

2. Click on the TRUNK ID drop down list to select the trunk group to which you want to add port member.

3. Click on the PORT drop down list to select the port number which you want to add to the selected trunk.

4. Click on the ADD button to add it in. The port number should show up under the TRUNK GROUP MEMBER in the table. Click the DEL button to delete a port member from the selected trunk.

5. Select one of the distribution criteria for the load balancing algorithm.

6. Then, click APPLY button to update and save to a new setting.

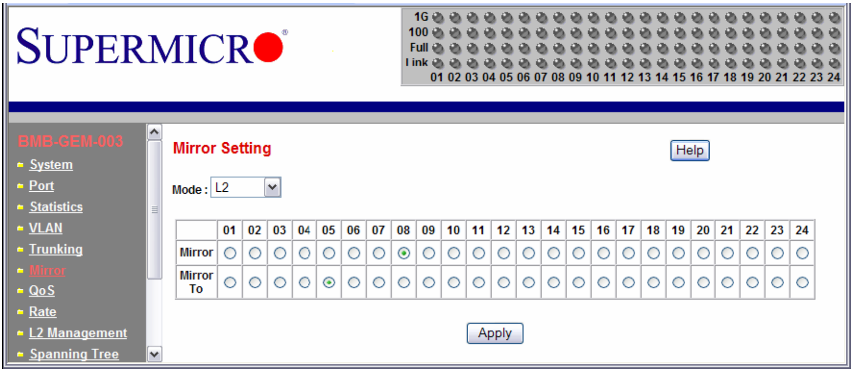
6-6 Mirroring

The switch supports port mirroring. A copy of the egress (transmit) data and the ingress (receive) data of the mirrored (monitored) port is sent to the mirroring (snooping) port. A user can attach a monitoring device to the mirroring port, such as a sniffer or an RMON probe to view the traffic at the mirrored port. This is useful for network monitoring and troubleshooting.

The switch allows for only one mirrored port at any given time. Port mirroring is independent from L2 switching. The receive mirrored port still forwards the frame to the mirroring port, even if the frame is eventually dropped.

To configuring port mirroring, click on the MIRROR folder in the left-hand side bar. The MIRROR SETTING screen should appear as in Figure 6-12.

Figure 6-12. Port Mirroring Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
Help
Apply

Mirror Setting

Mode : L2

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mirror	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Mirror To	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Table 6-4. Port Mirroring Screen Controls

Control	Description
Mode	This enables or disables mirroring. Select L2 to enable the mirroring.
Mirror	This specifies a Mirror port to which ingress and egress traffic will be mirrored.
Mirror To	This specifies the mirrored-to port.
Apply	This applies the mirror setting to the system.

6-7 Quality of Service

Quality of Service (QoS) helps a network user to reserve a guaranteed bandwidth for some critical application functions that require a high bandwidth and high priority. Applications such as video, audio streaming, VoIP and video conferencing must have a certain amount of bandwidth to maintain their operation correctly. QoS allows user to prioritize network traffic, thereby providing better services for those applications with a higher priority.

The switch supports 802.1p priority queuing QoS based on the priority bit in a frame's VLAN header. The 802.1p priority bit, if present in the frame, specifies the priority of the frame during forwarding. The 802.1p standard uses eight (0-7) priority levels for network traffic. Priority level 7 is the highest priority. Priority level 0 is the lowest level.

Priority Queues

Four priority queues are provided for each port. The priority queues are labeled from 3 to 0. Priority queue 3 has highest priority while queue 0 has lowest priority. The switch transmits the frames based on the priority of the queue, not the priority tag. Frames in a higher priority queue are served more often than frames in a lower priority queue.

User configurable mapping (priority queue assignment) between the eight 802.1p priority classes and the four priority queues is provided. If the incoming frame is untagged, the switch uses the priority field in the per-port default priority (configurable in the PORT folder) to assign a frame to a priority queue. If the incoming frame is tagged or priority-tagged, the switch uses the priority field in the incoming frame to assign the frame to a priority queue.

The scheduling for transmission among the four priority queues is accomplished by one of the two user-configurable schemes: strict (fixed) priority and weighted round-robin.

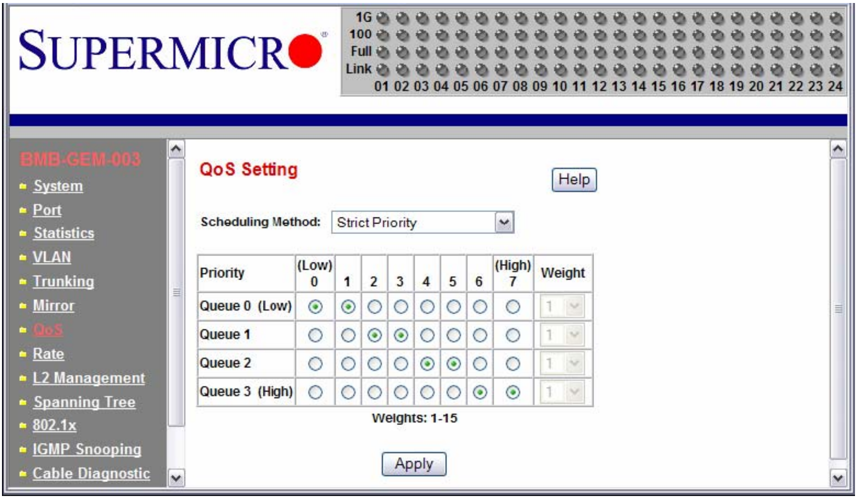
For strict priority based scheduling, the packets which were put in the higher priority queue are transmitted first. If there are multiple frames with different priority tags in the same priority queue, the frame with higher priority level is transmitted first. After all frames in the higher priority queue have been transmitted, the frames in the lower priority queue will start transmitting.

For the weighted round-robin based scheduling, the number of packets served in the priority queue is determined by the weight number. After those packets are transmitted, the service moves to transmit the packets in the next queue. Therefore, a higher priority queue should have a higher weight number than a lower priority queue. The weight number is from 1 to 15 for the switch. If each queue has same weight number, then each queue has an equal opportunity to transmit frames just like in round-robin queuing.

To configure the QoS, click the QOS folder on the left-hand side bar. It should display as shown in Figure 6-13.

The QOS SETTING sets the priority relationship between the four queues, selects the scheduling method for those queues, associates packets of specific priorities to specific queues, and specifies a "weight" for each queue.

Figure 6-13. QoS Setting Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Help
Apply

QoS Setting

Scheduling Method: Strict Priority

Priority	(Low) 0	1	2	3	4	5	6	(High) 7	Weight
Queue 0 (Low)	●	●	○	○	○	○	○	○	1
Queue 1	○	○	●	●	○	○	○	○	1
Queue 2	○	○	○	○	●	●	○	○	1
Queue 3 (High)	○	○	○	○	○	○	●	●	1

Weights: 1-15

Table 6-5. QoS Setting Screen Controls

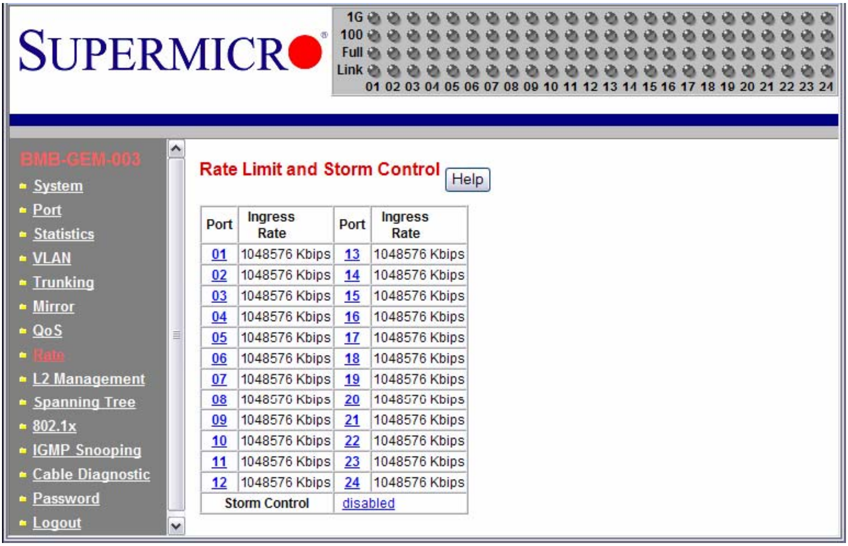
Control	Description
Scheduling Method	This specifies one of the two scheduling methods (Strict and Weighted Round-Robin) for the queues.
Queue [0:3]	Queue [0:3] prioritizes the four queues. Queue 0 is the lowest priority queue and queue 3 is the highest priority queue. Packets in queue 3 are served more often than packets in queue 0.
Priority	This indicates packet priority. This value is retrieved from the priority tag field, with values from 0 to 7. 0 indicates the lowest priority and 7 indicates the highest priority. Click on the radio button to send packets of a specific priority to a particular queue.
Weight	This indicates the weight (number of packets) to be served in the queue before moving to serve the next queue. A high priority queue should have a higher weight than a low-priority queue.

6-8 Rate Control

The switch supports per-port rate control. When the data rate of the incoming frame for a particular port exceeds a selected rate, the excess frame traffic is subject to packet drops or flow control, depending on the per-port flow control configuration in the PORT folder. If the flow control of a particular port is enabled, then the switch uses flow control to inhibit any excess traffic. If the flow control is disabled, the excess frames will be dropped.

To configure the ingress rate limit for a port, click on RATE in the left-hand side bar. The RATE LIMIT AND STORM CONTROL screen appears as Figure 6-14.

Figure 6-14. Rate Limit and Storm Control Screen


SUPERMICR●
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Password
Logout
Help

Rate Limit and Storm Control

Port	Ingress Rate	Port	Ingress Rate
01	1048576 Kbips	13	1048576 Kbips
02	1048576 Kbips	14	1048576 Kbips
03	1048576 Kbips	15	1048576 Kbips
04	1048576 Kbips	16	1048576 Kbips
05	1048576 Kbips	17	1048576 Kbips
06	1048576 Kbips	18	1048576 Kbips
07	1048576 Kbips	19	1048576 Kbips
08	1048576 Kbips	20	1048576 Kbips
09	1048576 Kbips	21	1048576 Kbips
10	1048576 Kbips	22	1048576 Kbips
11	1048576 Kbips	23	1048576 Kbips
12	1048576 Kbips	24	1048576 Kbips
Storm Control		disabled	

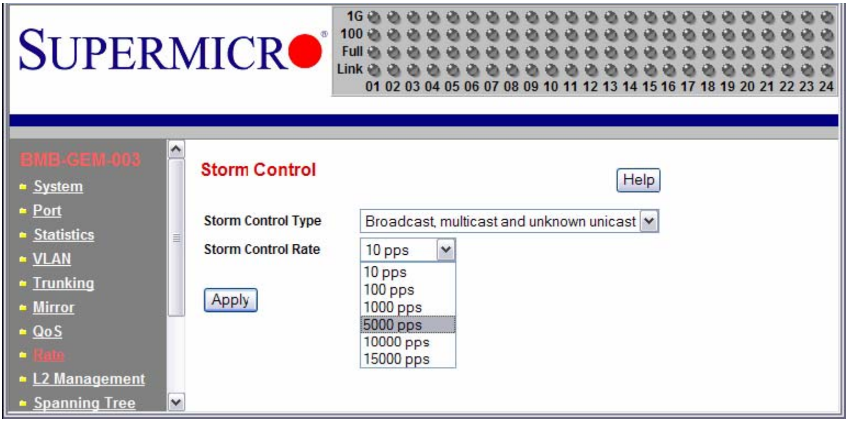
The screen shows the Ingress Rate (in kilobits per sec) for all ports. Click on the port number to control the ingress rates for the port. There are eight different levels to select: *no limit (1Gbps)*, *256Kbps*, *1Mbps*, *4Mbps*, *16Mbps*, *64Mbps*, *128Mbps* or *512Mbps*. The STORM CONTROL indicates the current status of storm control.

A traffic storm happens when broadcast, multicast or unknown unicast packets flood the network, which will degrade the network performance. The storm control monitors the traffic of an incoming particular type of frame (configured by the user) and limits traffic to a user configurable rate level (threshold). The storm rate threshold is counted in number of packets per second (pps). If the traffic of a particular frame type exceeds the threshold during one second, all the rest of that type of frame will be dropped before the end of that second.

The switch provides configuration to assign storm control type and rate limitations to the entire system.

To configure storm control, click Storm Control link in the Rate Limit and Storm Control screen (Figure 6-14). The Storm Control screen appears as shown in Figure 6-15.

Figure 6-15. Storm Control Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
Help
Apply
10 pps
100 pps
1000 pps
5000 pps
10000 pps
15000 pps

Storm Control

Storm Control Type: Broadcast, multicast and unknown unicast

Storm Control Rate: 10 pps

Table 6-6. Storm Control Screen Controls

Control	Description
Storm Control Type	This selects the type of the packet storm. The figure below shows all available options: Broadcast only, Broadcast and multicast, Broadcast unknown unicast and Broadcast, multicast, and unknown unicast.
Storm Control Rate	This selects a rate (packets-per-second) for storm control. The figure below shows all available options: 10 pps 100 pps 1000 pps 5000 pps 10000 pps and 15000 pps.

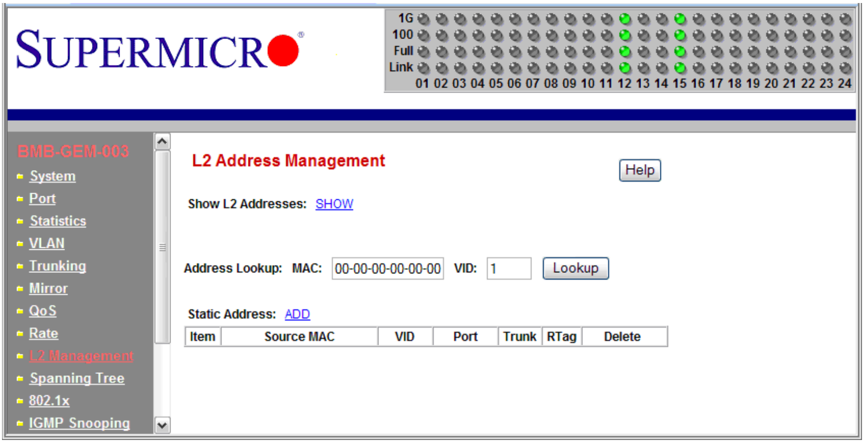
6-9 L2 Management

L2 management provides a way to add, delete, and look up MAC addresses in the L2 address table. The switch supports 8192 L2 address table entries, each specifying a MAC address, VLAN ID, destination port number, trunk ID and Rtag. The switch supports store-and-forward mode switching.

After a frame is received, its source MAC address (MACSA) and destination MAC address (MACDA) are retrieved. Depending on the port state, the MACSA and port number may be used to dynamically update the L2 address table. The MACDA may be used to determine the frame's destination port. User can also statically add a MAC address to the L2 address table.

To add a static entry into the L2 address table, click on the ADD link on the L2 Address Management screen as shown in Figure 6-16.

Figure 6-16. L2 Management Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Help
Lookup

L2 Address Management

Show L2 Addresses: SHOW

Address Lookup: MAC: 00-00-00-00-00-00 VID: 1

Static Address: ADD

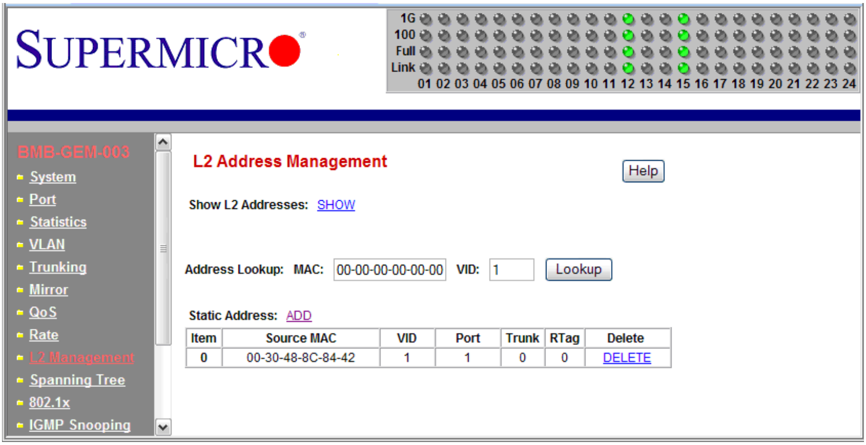
Item	Source MAC	VID	Port	Trunk	RTag	Delete

To remove the specified static MAC address from the table, click the DELETE link for that MAC address as shown in Figure 6-17 when there are static entries in the table.

To search for a MAC address to see if it exists in the table or not, enter the MAC ADDRESS and VID, then click on LOOKUP button. If the MAC address is in L2 ADDRESS table, whether it is a static or a dynamic MAC address, the result will be displayed.

To show all of MAC address in the L2 table, click the SHOW link next to SHOW L2 ADDRESSES.

Figure 6-17. L2 Management: Current Entries Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Help
Lookup

L2 Address Management

Show L2 Addresses: SHOW

Address Lookup: MAC: 00-00-00-00-00-00 VID: 1

Static Address: ADD

Item	Source MAC	VID	Port	Trunk	RTag	Delete
0	00-30-48-8C-84-42	1	1	0	0	DELETE

6-10 Spanning Tree

The Spanning Tree Protocol (STP) helps to detect and prevents loops from occurring on a switched or bridged network. When multiple paths exist on a network, STP will configure the network to use the most efficient path between network devices. All other paths are forced into a blocked standby state. If the active path fails, then STP will automatically select another path to become the active path on the network to sustain normal network operations. An active path is selected by comparing path costs defined on each path. The path with the lowest cost will be selected.

The switch supports IEEE802.1d Spanning Tree Protocol and IEEE802.1w Rapid Spanning Tree Protocol (RSTP). The Rapid Spanning Tree Protocol significantly reduces the convergence time by assigning port roles and by determining the active topology. A reconfiguration of the spanning tree can occur in less than one second. The RSTP is backward compatible with legacy devices running IEEE802.1d STP and serves as an STP device when an STP device is present in the network.

Bridge Protocol Data Unit (BPDU)

The spanning tree is built by obtaining switch information by exchanging Bridge Protocol Data Unit (BPDU) packets among the participating switches. When RSTP is enabled for a switch, it will generate a BPDU and periodically forward it out through each port on the switch. The interval is configurable through the Hello Time, which is set to a two second default. This enables the switch to keep track of network topology changes and enable or disable ports as required.

The BPDU contains the information about the transmitting switch and its ports including MAC address, bridge priority, port priority and port path cost. The BPDU packet is sent out by using the unique MAC address of the port itself as a source address, and the destination address of the STP multicast address 01:80:C2:00:00:00.

There are three types of BPDUs:

- Configuration BPDU – for spanning tree computation
- Topology Change Notification (TCN) BPDU – announces changes in network topology.
- Topology Change Notification Acknowledge (TCA) BPDU

The major operation of the spanning tree protocol includes a root bridge election, finding paths to a root bridge, determining the least cost path to root and disabling all other root paths. When a RSTP enabled switch is turned on, it automatically assumes that it is the root bridge in the spanning tree. The software in the switch will elect a switch as the root bridge based on the Bridge ID in the received BPDU. The Bridge ID is an 8-byte field which combines a high order two-byte bridge priority number and a lower order six-byte switch MAC address. The switch with the lowest Bridge ID will be elected as the root bridge.

All RSTP participating switches will use an algorithm to determine how close they are to the root bridge, which is known as Path Cost. The path with lowest cost will be selected as the active path. All others will be blocked (standby). TCN packets are injected into the network by a non-root switch and propagated to the root. Upon receipt of the TCN, the root switch will set a Topology Change flag in its normal BPDUs. This flag is propagated to all other switches to instruct them to rapidly age out their forwarding table entries.

Port Transition State

When a device is connected to an RTSP or STP enabled switch port for the first time, it will not immediately start to forward data. Instead, it will go through a number of states while it processes BPDUs and determines the network topology.

There are five port states in the legacy 802.1d STP: *disabled*, *blocking*, *listening*, *learning* and *forwarding*. The RSTP combines the *disabled*, *blocking* and *listening* states used in 802.1d STP and creates a single state: *Discarding*. Table 6-7 lists the comparison of port states between 802.1d STP and 802.1w RSTP.

Table 6-7. Comparison of Port States

State Displayed	802.1d STP	802.1w RSTP
Discarding	Disabled	Discarding
Discarding	Blocking	Discarding
Discarding	Listening	Discarding
Learning	Learning	Learning
Forwarding	Forwarding	Forwarding

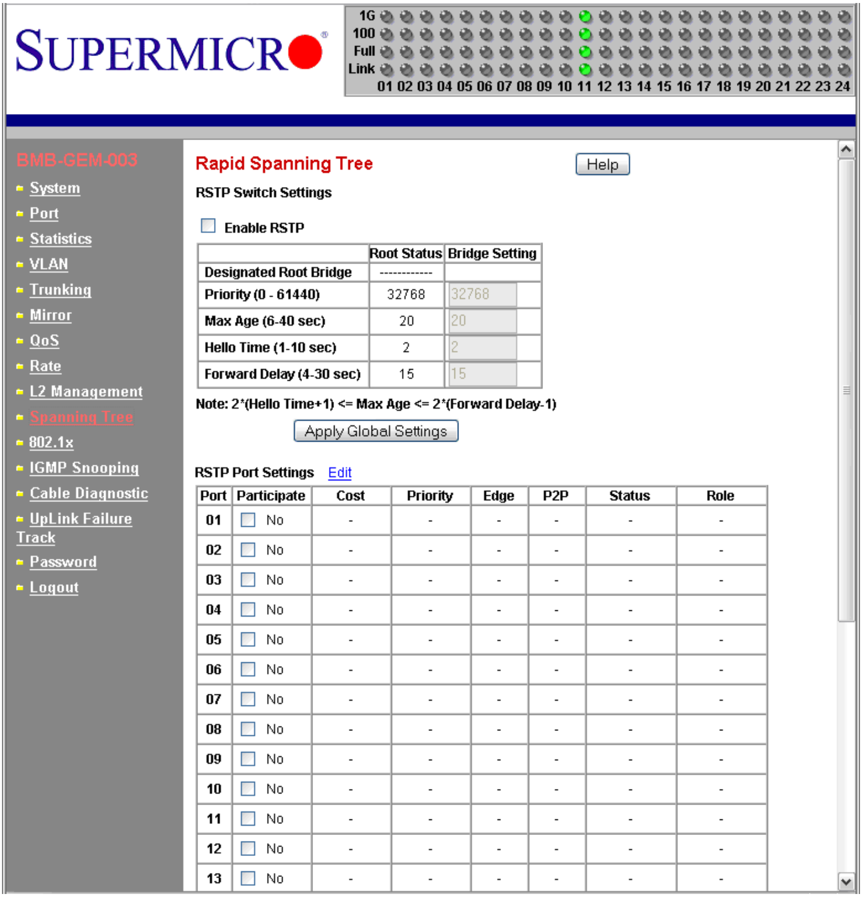
RSTP Port Roles

RSTP will assign port roles for each port during the process receiving the BPDUs. Based on its port role, a port can either send or receive BPDUs and forward or block data traffic.

- **Root** – the port that provides the lowest cost path when the switch forwards packets to the root switch.
- **Designated** – the port closest to the root switch and forwarding traffic toward the root switch and sending BPDUs in a link segment. Each designated port is in a forwarding state.
- **Alternate** – this port provides an alternate path to the root bridge. This path is different than using the root port. The alternate port is in a blocking state.
- **Backup** – the port provides a backup/redundant path to a link segment to which another switch port already connects. This is a special case when two or more ports of the same switch are connected together.
- **Disabled** - Not a strictly part of RSTP, a network administrator can manually disable a port.

To configure the RAPID SPANNING TREE, click the SPANNING TREE folder on the left-hand side bar. There are two portions to configure: RSTP SWITCH SETTINGS and RSTP PORT SETTINGS, as shown in the RAPID SPANNING TREE screen (Figure 6-18).

Figure 6-18. Rapid Spanning Tree Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
UpLink Failure Track
Password
Logout
Help
Apply Global Settings
Edit

Rapid Spanning Tree

RSTP Switch Settings

☐ Enable RSTP

	Root Status	Bridge Setting
Designated Root Bridge	------------	
Priority (0 - 61440)	32768	32768
Max Age (6-40 sec)	20	20
Hello Time (1-10 sec)	2	2
Forward Delay (4-30 sec)	15	15

Note: 2*(Hello Time+1) <= Max Age <= 2*(Forward Delay-1)

RSTP Port Settings

Port	Participate	Cost	Priority	Edge	P2P	Status	Role
01	☐ No	-	-	-	-	-	-
02	☐ No	-	-	-	-	-	-
03	☐ No	-	-	-	-	-	-
04	☐ No	-	-	-	-	-	-
05	☐ No	-	-	-	-	-	-
06	☐ No	-	-	-	-	-	-
07	☐ No	-	-	-	-	-	-
08	☐ No	-	-	-	-	-	-
09	☐ No	-	-	-	-	-	-
10	☐ No	-	-	-	-	-	-
11	☐ No	-	-	-	-	-	-
12	☐ No	-	-	-	-	-	-
13	☐ No	-	-	-	-	-	-

The RSTP SWITCH SETTINGS allows the user to control RSTP parameters from the bridge point-of-view. ROOT STATUS shows status of the root bridge. BRIDGE SETTING shows the current bridge setup.

To turn on the Rapid Spanning Tree Protocol (RSTP), check on the ENABLE RSTP dialog box and click on the APPLY GLOBAL SETTINGS button.

Root Status

The settings for ROOT STATUS are shown below:

- **Designated Root Bridge** – The bridge identifier of the root of the spanning tree is determined by the RSTP protocol as executed by this node. The bridge identifier value is used as the Root Identifier parameter in all configuration Bridge PDUs originated by this node.
- **Max Age** – This indicates the maximum age of the root bridge. This is the maximum age of spanning tree protocol information learned from the network on any port before it is discarded, in units of hundredths of a second. This is the actual value that this bridge is currently using.
- **Hello Time** – This indicates the amount of hello time of the root bridge. Hello time is the amount of time between the transmission of configuration Bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of hundredths of a second.
- **Forward Delay** – This indicates the amount of forward delay of the root bridge. Forward delay is a time value, measured in units of hundredths of a second, which controls how fast a port changes its state. The value determines how long the port stays in each of the listening and learning states, which precede the forward state. This value is also used to age all dynamic entries in the forwarding databases when a topology change has been detected and is underway.

Bridge Setting

Settings for Bridge Setting are shown below:

- **Priority** – This configures the priority of the current bridge.
- **Max Age** – This configures the maximum age of the current bridge. This is the maximum age of spanning tree protocol information learned from the network on any port before it is discarded, in units of hundredths of a second. This is the actual value that this bridge is currently using.
- **Hello Time** – This indicates the amount of hello time of the current bridge. Hello time is the amount of time between the transmission of configuration Bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of hundredths of a second.
- **Forward Delay** – This indicates the amount of forward delay of the current bridge. Forward delay is a time value, measured in units of hundredths of a second, which controls how fast a port changes its state. This value determines how long the port stays in each of the listening and learning states, which precede the forward state. This value is also used to age all dynamic entries in the forwarding databases when a topology change has been detected and is underway.

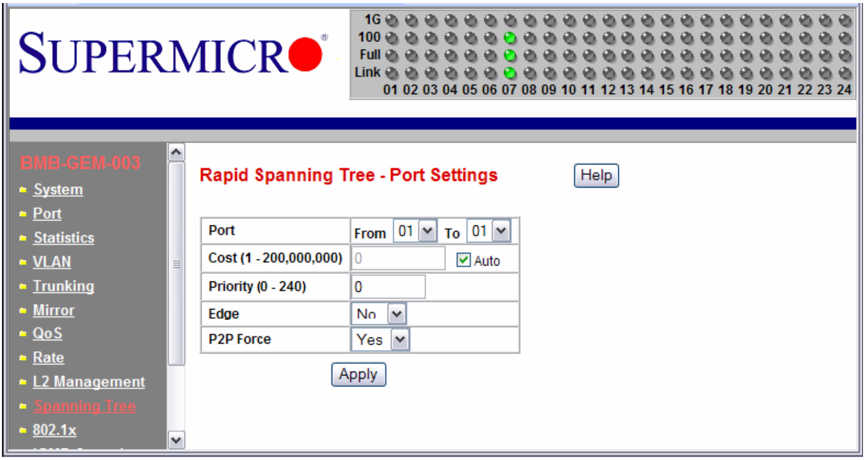
RSTP Port Settings

These settings control and monitor the port-based spanning tree status.

- **Participate** – This specifies if the RSTP is enabled or not for the selected port.
- **Cost** – Displays the cost of this port. "Cost" means the contribution of this port to the path cost of paths towards the spanning tree root which include this port.
- **Priority** – Displays the priority of this port. This is the value of the priority field contained in the first octet of the Port ID.
- **Edge** – This indicates if this port is the edge port. Once configured as an edge port, the port immediately transitions to the forwarding state. It is available only when the port is directly connected to an end terminal (or a file server) that has no influence on the spanning tree configuration. Since ports 11 to 24 are connected to blade server NIC ports, all of those ports can be configured as an Edge port.
- **P2P** – This indicates if this port is a point-to-point link. If you connect a port to another port though a point-to-point link and the local port becomes a designated port, it negotiates a rapid transition with the other port to ensure a loop-free topology.
- **Status** – This displays the RSTP port status.
- **Role** – This displays the role of this port.

To modify the Port Settings for each port, click on the Edit link next to Port Setting. The Rapid Spanning Tree - Port Settings screen (Figure 6-19) will appear.

Figure 6-19. Rapid Spanning Tree Port Settings



Rapid Spanning Tree - Port Settings

Port	From 01 To 01
Cost (1 - 200,000,000)	0 ☑ Auto
Priority (0 - 240)	0
Edge	No
P2P Force	Yes

Select a group of port numbers that you want to configure. Setting the Cost to zero or checking Auto will automatically set the default value depending on the link speed. The default cost is *20000* for a Gigabit port and is *100000* for a 100Mbps port.

6-11 IEEE 802.1x

IEEE 802.1x is a client-server based access control and authentication protocol that restricts unauthorized user devices from connecting to the LAN through publicly accessible ports. This port-based access control is accomplished by using a RADIUS server that is connected to a gigabit switch management port to authenticate client users trying to access a network through the switch. The gigabit switch will relay Extensible Authentication Protocol over LAN (EAPoL) packets between the user client and the RADIUS server. The 802.1x protocol consists of three components: client, authenticator and authentication server.

The Authentication Server is a remote device that runs the RADIUS server program (Windows 2000/2003 IAS™, freeRADIUS™ from open source). The role of the Authentication Server is to certify the identity of a client attempting to access the network. By exchanging secure information between the RADIUS server and the client through EAPoL packets, the Authentication Server will inform the switch whether or not the client is granted access to the LAN through the connected port.

The client is a workstation that wishes to access the network through a connected switch port. All workstations have to run a program (supplicant) that is compliant with the 802.1x protocol. Microsoft Windows XP™ and Vista™ should have this. A user can also install another third party package, such as Odyssey® from Funk Software®.

When the GLOBAL RADIUS SETTING and SET STATUS of an individual port are enabled, that port will initially be placed into an unauthorized state. The client will initiate negotiations by sending an EAPOL START packet.

There are several EAP authentication methods available in Microsoft Windows XP, such as *EAP-MD5*, *EAP-TLS* and *EAP-PEAP*. Currently, the gigabit switch only supports *EAP-MD5* for 802.1x authentication.

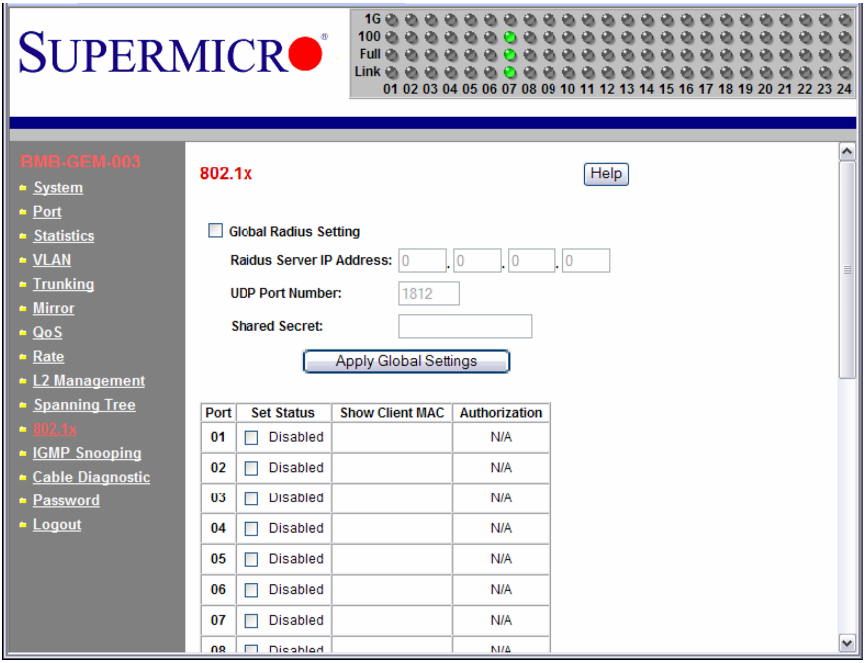
- **PEAP-MS-CHAP v2** uses password-based credentials and requires computer certificates on the RADIUS servers.
- **EAP-TLS** uses certificate-based credentials and requires user and computer certificates on the wire’s client computers and computer certificates on the RADIUS servers.
- **EAP-MD5** (Message Digest 5) Challenge Handshake Authentication Protocol (MD5 CHAP), which uses passwords.

Wiring for 802.1x

The EAPOL packets are handled by a management processor in the switch. The processor communicates with the outside world through three ports. Two ports (eth0 and eth1) are connected to the CMM module's Ethernet port and the third port (eth2) is connected to all 24 switching ports. Only one port is enabled at any time. The regular configuration setup switch is managed through the CMM Ethernet port. Thus, for regular deployment, the RADIUS server should be located where it can be reached from the CMM Ethernet port.

802.1x Configuration

Figure 6-20. 802.1x Configuration Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Password
Logout
802.1x
Help
Apply Global Settings

☐ Global Radius Setting

Raidus Server IP Address: 0 . 0 . 0 . 0

UDP Port Number: 1812

Shared Secret:

Port	Set Status	Show Client MAC	Authorization
01	☐ Disabled		N/A
02	☐ Disabled		N/A
03	☐ Disabled		N/A
04	☐ Disabled		N/A
05	☐ Disabled		N/A
06	☐ Disabled		N/A
07	☐ Disabled		N/A
08	☐ Disabled		N/A

To configure 802.1x port based access control, click on the 802.1X folder in the left-hand side bar. The 802.1X configuration should display as shown in Figure 6-20. Check the GLOBAL RADIUS SETTING dialog box to enable 802.1x port based access control.

- **Radius Server IP Address** – This indicates the IP address of the RADIUS server.
- **UDP Port Number** – This specifies the UDP port number of the EAPOL control frame. 1812 is the default UDP port number. If the RADIUS server can't recognize them, other numbers can be used.
- **Shared Secret** – This is a 16-character string used by the RADIUS server as a password to identify EAPOL control frames.

The PORT AUTHENTICATION SETTINGS allows you to enable or disable authentication for individual ports. It also displays the results when a port is enabled for authentication.

- **Set Status** – This enables or disables port authentication. ENABLE PORT AUTHENTICATION STATUS means a port should be authorized by a RADIUS server to forward traffic. No traffic is forwarded if it is unauthorized. No authentication process is required for those ports in disabled status; traffic can be forwarded normally.
- **Show Client MAC** – This displays the last client in the MAC address who sent out the EAPOL control frame of the port.

- **Authorization** – This displays the authentication status of an enabled port. It includes the following status:
- **In Progress** – This indicates that the authentication is still in progress. Traffic is not forwarded before authentication is verified.
  - **Yes** indicates the port access is authorized.
  - **No** indicates the port access is not authorized.
  - **N/A** means no authentication required.

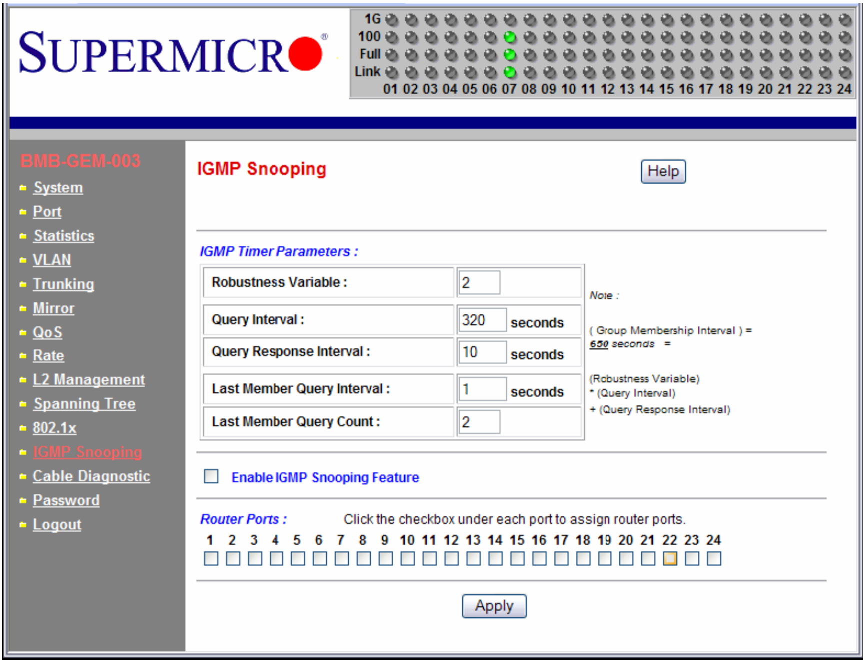
6-12 IGMP Snooping

IP multicast is often used to distribute video/audio multimedia data over the network. The layer 2 switch will flood multicast frames to all of ports of switch, which wastes a lot of unnecessary network bandwidth. IGMP is a standard defined in RFC1112 for IGMPv1 and in RFC2236 for IGMPv2. IGMP specifies how a host can register a router in order to receive specific multicast traffic. A layer 3 switch usually supports Internet Group Management Protocol (IGMP) to manage multicast groups by sending and processing IGMP packets. To prevent the unnecessary flooding, the gigabit layer 2 switch can enable the *IGMP snooping* function to control how IP multicast packets are forwarded to required ports by monitoring IGMP queries and response packets generated by layer 3 switches or the IGMP querier.

Currently, the gigabit switch supports IGMP snooping for IGMP v1/v2 packets. In the real network setup, the switch is seated between the Multicast Router/Server and the host. The Multicast Router/Server will periodically send an IGMP v2 query packet and the host will respond with an IGMP v2 report packet if the host is in the same multicast group. When the host wants to go away, it can send an IGMP v2 Leave packet. The switch will remove the connected port number from the multicast group entry of a table. If the host is just silently removed, then the switch will clean it from table when the timer expires.

Figure 6-21 shows the IGMP SNOOPING configuration screen. Table 6-8 describes each configuration item.

Figure 6-21. IGMP Snooping Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
Password
Logout
Help
Apply

IGMP Snooping

IGMP Timer Parameters :

Robustness Variable :	2
Query Interval :	320 seconds
Query Response Interval :	10 seconds
Last Member Query Interval :	1 seconds
Last Member Query Count :	2

Note :

(Group Membership Interval) =
650 seconds =

(Robustness Variable)
* (Query Interval)
+ (Query Response Interval)

☐ Enable IGMP Snooping Feature

Router Ports : Click the checkbox under each port to assign router ports.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Table 6-8. IGMP Snooping Screen Controls

Control	Description
Robustness Variable	This allows tuning for the expected packet loss on a subnet. If a subnet is expected to be lossy, the Robustness Variable may be increased. IGMP is robust to (Robustness Variable-1) packet losses. The Robustness Variable must not be 0, and should not be 1. The default value is 2.
Query Interval	This is the interval between general queries sent by the querier. The default interval is 125 seconds. By varying the [Query Interval], an administrator may tune the number of IGMP messages on the subnet; larger values cause IGMP queries to be sent less often.
Query Response Interval	This is the maximum response time inserted into the periodic general queries. The default value is 100 (10 seconds) By varying the query response interval, an administrator can tune the bursting of IGMP messages on the subnet; larger values make the traffic less bursty, as host responses are spread out over a larger interval. The number of seconds represented by the query response interval must be less than the query interval.
Last Member Query Interval	This is the maximum response time inserted into group-specific queries sent in response to Leave Group messages, and is also the amount of time between group-specific query messages. The default value is 10 (1 second). This value may be tuned to modify the “leave latency” of the network. A reduced value results in reduced time to detect the loss of the last member of a group.
Last Member Query Count	This is the number of Group-Specific Queries sent before the router assumes there are no local members.Default: the Robustness Variable.
Enable IGMP Snooping Feature	This is used to enable the IGMP snooping feature.
Router Ports	This specifies ports to which IGMP routers were connected.

6-13 SNMP

The SNMP agent in the gigabit switch supports SNMP v1 and v2c. It also supports the following MIB:

- RFC1213 MIBII with standard sets which include system, interfaces, IP, ICMP, TCP, UDP, Dot3, and SNMP.
- RFC2011 SNMPv2 MIB for IP using SMIv2
- RFC2665 EtherLike MIB

6-14 UpLink Failure Tracking (ULFT)

Uplink Failure Tracking (ULFT) feature is provided to support network adapter Teaming (Windows Systems) or Channel Bonding (Linux Systems) on SuperBlade servers.

Installing two GbE switch modules can have additional connectivity to allow increased network bandwidth, redundancy, and/or fault tolerance. The connection between internal ports of the switch and each LAN port of the server blades is hardwired through the middle plane. The link will not be dropped unless either switch's internal port or the server blade's LAN port fails.

By enabling the ULFT feature with proper pair configuration, a failover event can be triggered in the Teaming or Channel Bonding program when all of a switch's external uplink member ports fail. The switch automatically enables the internal downlink ports once one of the uplink ports in the configured pair returns to service.

NOTE: By dafault, the switch’s ULFT feature is disabled. The link status on the external uplink ports does not affect the link status of internal downlink ports.

To use ULFT, you must configure a Failure Tracking Pair and enable the ULFT feature. A Failure Tracking Pair consists of uplink and downlink ports. The uplink tracking member contains at least one of the external ports: port 1 to port 10. The downlink tracking member contains at least one of the internal ports: port 11 to port 24.

If Trunking is enabled on the external uplink ports, then all of the trunk member ports should be configured as uplink members of a tracking pair. The link to the configured internal downlink member ports is disabled when **all** of the trunking uplink member ports fail. Figure 6-22 shows the UPLINK FAILURE TRACKING CONFIGURATION screen. Table 6-9 describes each configuration item.

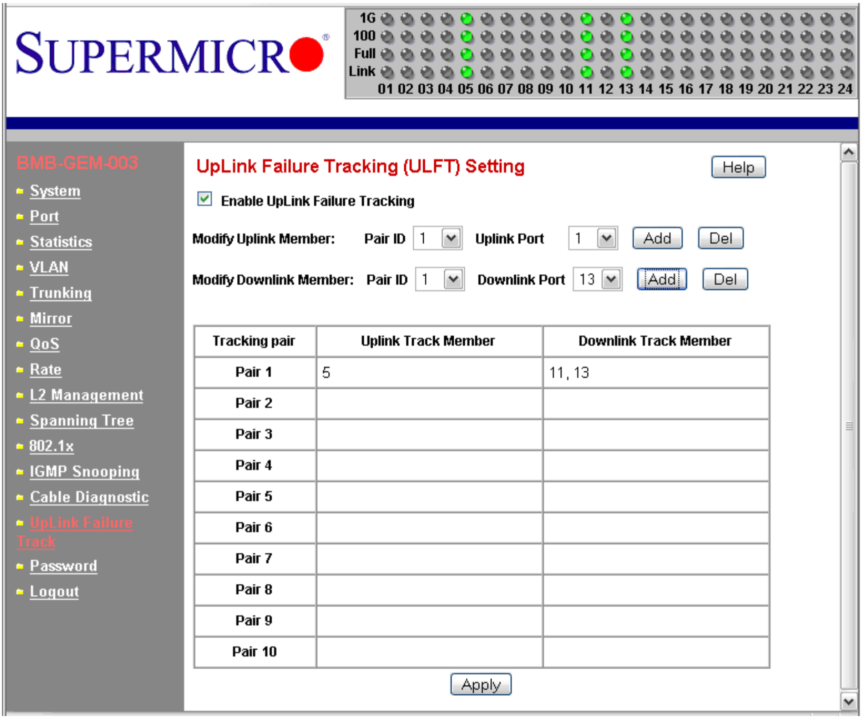
For example, if your SuperBlade has two blade servers installed on slot 1 and slot 3,then each blade has two LAN ports, one connected to the internal port of the upper GbE switch and the other one connected to the internal port of the bottom GbE switch. To implement switch redundancy, you need to have two GbE switches installed. Each of these GbE switches should enable the UpLink Failure Tracking feature and have the exact same proper configuration as shown in Figure 6-22.

The pair configuration in this example defines the ULFT for blade 1 and blade 3. The external port 5 of each switch is connected to an external third party switch through an Ethernet cable. This assumes that the Network Adapter Teaming or Channel Bonding has a proper configuration and is running on each of the blades.

If one of the external Ethernet cables is broken or the third party switch port to which the cable connects fails, then one of the SuperBlade GbE switches will detect a link drop on its external port 5 and turn down the link on its internal ports 11 and 13. The Teaming or Channel Bonding software running on both of these blades then detects a link drop on one of its LAN ports and switches to another LAN port automatically. This allows network traffic to go through another GbE switch.

Note that ULTF will only drop an internal link from the blade to the switch if all of the (external) uplinks defined for that blade have failed (or been disabled) on that switch. As long as one or more of uplinks on a particular switch (that have been defined for a particular downlink) is active, the blade and switch will keep the internal link active.

Figure 6-22. Uplink Failure Tracking Configuration Screen


SUPERMICRO
1G
100
Full
Link
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BMB-GEM-003
System
Port
Statistics
VLAN
Trunking
Mirror
QoS
Rate
L2 Management
Spanning Tree
802.1x
IGMP Snooping
Cable Diagnostic
UpLink Failure Track
Password
Logout
Help
Add
Del
Add
Del
Apply

UpLink Failure Tracking (ULFT) Setting

☑ Enable UpLink Failure Tracking

Modify Uplink Member: Pair ID 1 Uplink Port 1

Modify Downlink Member: Pair ID 1 Downlink Port 13

Tracking pair	Uplink Track Member	Downlink Track Member
Pair 1	5	11, 13
Pair 2		
Pair 3		
Pair 4		
Pair 5		
Pair 6		
Pair 7		
Pair 8		
Pair 9		
Pair 10		

Table 6-9. Uplink Failure Tracking Configuration Screen Controls

Control	Description
Enable UpLink Failure Tracking	Enables/Disables the UPLINK FAILURE TRACKING feature.
Modify Uplink Member	Select the pair ID and uplink port number to add/delete to/from uplink member of a pair.
Modify Downlink Member	Select the pair ID and downlink port number to add/delete to/from downlink member of a pair.
Uplink Track Member	This column defines member ports of an uplink in a ULFT pair.
Downlink Track Member	This column defines member ports of a downlink in a ULFT pair.

Notes

Chapter 7
10-Gb Ethernet Switch Firmware

This chapter is provided to help you quickly get started in using the firmware for your 1/10 Gigabit Ethernet switch module.

NOTE: See the SM-CLI Guide included on your SuperBlade System CD-ROM for further information on the 10-Gb Ethernet switch firmware and its controls.

7-1 Overview

The Supermicro switch utility for the SBM-GEM-X2C 1/10 Gigabit Ethernet switch module provides a web-based interface for managing layer2 and layer3 switching at wire speed for constructing a switched/routed network. This interface provides both a bridging functionality and advanced features such as link aggregation, Dynamic VLAN/ Dynamic Multicast, IGMP Snooping and Network Access Control. This web-based interface also comes with several Layer3 features as well (such as wire speed routing, Differentiated services, multicast routing and so on).

The Supermicro Switch firmware is implemented using open sources from OpenSSL, OpenSSH and other open source communities and is configured using web browsers such as Internet Explorer.

The utility starts with a default IP address, which is also the management IP address. This IP address is essentially provided for remote management of this switch. For managing the switch through web browsers, type in the default IP address in your browser's web address in order to start accessing the switch.

For example, if the management IP address of the switch is **192.168.1.1**, the switch can be accessed through the Web browser by typing http://192.168.1.1 in the address space of the web browser.

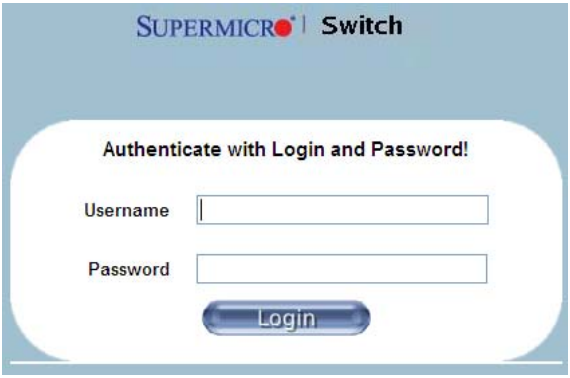
Nomenclature

The following nomenclature applies to screens found in this chapter:

- **Port */*** – This indicates the stacking ID number, port number
- **Port Number GB */*** – This is for an internal port
- **Port Number Ext */*** – This is for an external port.

7-2 Login

Figure 7-1. Login Page


SUPERMICRO | Switch
Authenticate with Login and Password!
Username
Password
Login

The initial login page (Figure 7-1) is used to login to the Supermicro Switch web-based management utility for the SBM-GEM-001. To login, enter your user name and password in the fields provided and press the LOGIN button.

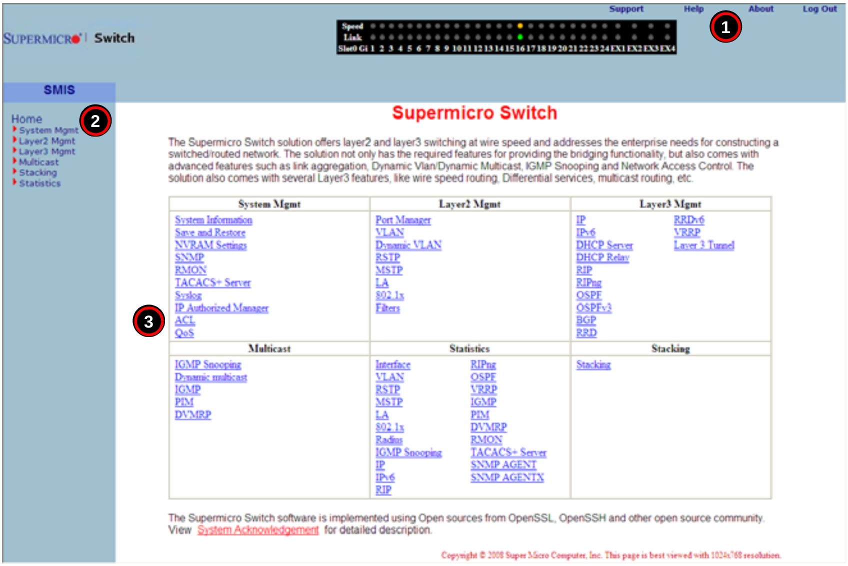
This User Name and Password are both used for accessing the switch through the web for switch configuration. The entered user name and password are validated at the switch end.

After logging in, you will be taken to the HOME page of the utility. See Section 7-3 for further details.

7-3 Home Page

The HOME page (Figure 7-2) contains links and menus for going to all other control pages in the Supermicro Switch web-based interface utility. A list of controls for this page is shown in Table 7-1. The basic page structure of the HOME page is duplicated for all subsequent sub-pages of the Supermicro Switch web-based interface utility.

Figure 7-2. Home Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
1
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
2
3
System Mgmt
System Information
Save and Restore
NVRAM Settings
SNMP
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
IP
IPv6
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
IGMP Snooping
Dynamic multicast
IGMP
PIM
DVMRP
Statistics
Interface
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+ Server
SNMP AGENT
SNMP AGENTX
Stacking
Stacking

Supermicro Switch

The Supermicro Switch solution offers layer2 and layer3 switching at wire speed and addresses the enterprise needs for constructing a switched/routed network. The solution not only has the required features for providing the bridging functionality, but also comes with advanced features such as link aggregation, Dynamic Vlan/Dynamic Multicast, IGMP Snooping and Network Access Control. The solution also comes with several Layer3 features, like wire speed routing, Differential services, multicast routing, etc.

The Supermicro Switch software is implemented using Open sources from OpenSSL, OpenSSH and other open source community. View System Acknowledgement for detailed description.

Copyright © 2008 Super Micro Computer, Inc. This page is best viewed with 1024x768 resolution.

Table 7-1. Home Page Controls and Components

Number	Name	Description
1	Page Header	This page header is present both on the Home page and all other pages accessed. It contains a graphic showing activity on the switches ports and add it on all links (see "Page Header Links" below for details).
2	Navigation Bar	The navigation bar contains an expandable list of links for you to use to get to other MANAGEMENT pages. All configuration pages contain this navigation bar.
3	Controls Pane	Each configuration page contains its own links and controls

The HOME page is displayed on successful validation of the user name and password. The information in this page presents a brief overview of the switch web-based management utility.

Page Header Links

On the top of all pages of the 1/10 Gigabit Ethernet switch module web-based management utility you can find the following Page Header links:

- **Support** – Click this link to get technical support for Supermicro Products.
- **Help** – Click on this link to open a help page that covers all the items on the page being viewed.
- **About** – Click this link to get additional information about the web-based management utility.
- **Log Out** – Click this link to log out of the web session.

The numbers displayed on the top of the pages for **Link** and **Speed** denote the port numbers. For Link, a green light corresponding to a number indicates that the port is up, whereas a red light corresponding to a number indicates that this port is down.

Navigation Bar

The Home page also includes links to Management pages, which have been categorized based on their protocol feature and functionality in the navigation bar. These pages, and their sub-pages are covered in more detail later on in this chapter. To go to one of a Management page’s sub-pages, click on the ▶ symbol to expand the list of links under the Management page.

Below is a list of the first of these Management pages:

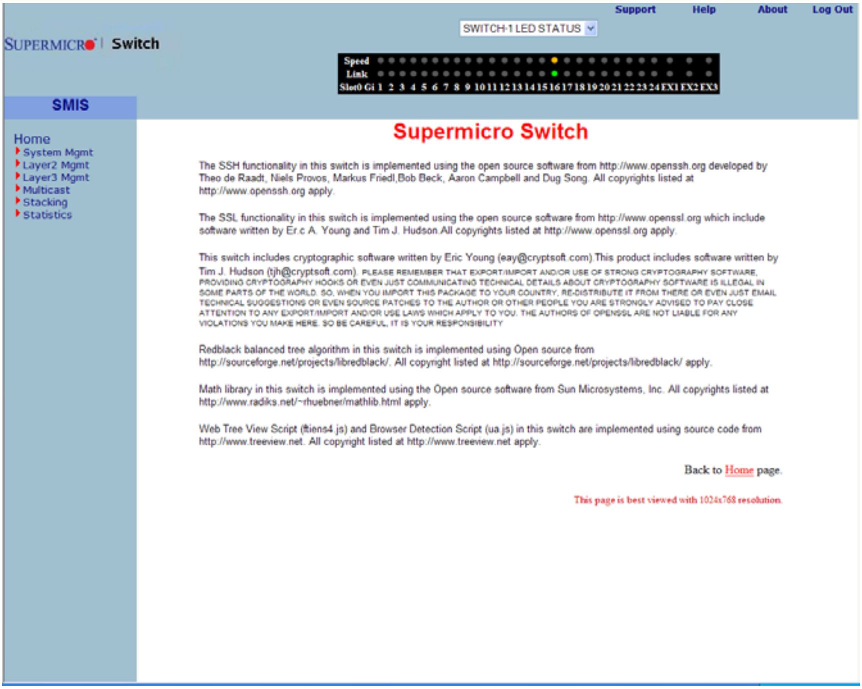
- System Management Page
- Layer2 Management Page
- Layer3 Management Page
- Multicast Page
- Stack Configuration Page
- Statistics Page

Control Pane

The Control pane contains links, tables and controls for operating the switch, or leading to other pages that have the controls you are seeking.

System Acknowledgement Page

Figure 7-3. System Acknowledgement Page



Supermicro Switch

The SSH functionality in this switch is implemented using the open source software from http://www.openssh.org developed by Theo de Raadt, Niels Provos, Markus Friedl,Bob Beck, Aaron Campbell and Dug Song. All copyrights listed at http://www.openssh.org apply.

The SSL functionality in this switch is implemented using the open source software from http://www.openssl.org which include software written by Er.c A. Young and Tim J. Hudson.All copyrights listed at http://www.openssl.org apply.

This switch includes cryptographic software written by Eric Young (eay@cryptsoft.com).This product includes software written by Tim J. Hudson (tjh@cryptsoft.com). PLEASE REMEMBER THAT EXPORT/IMPORT AND/OR USE OF STRONG CRYPTOGRAPHY SOFTWARE, PROVIDING CRYPTOGRAPHY HOOKS OR EVEN JUST COMMUNICATING TECHNICAL DETAILS ABOUT CRYPTOGRAPHY SOFTWARE IS ILLEGAL IN SOME PARTS OF THE WORLD. SO, WHEN YOU IMPORT THIS PACKAGE TO YOUR COUNTRY, RE-DISTRIBUTE IT FROM THERE OR EVEN JUST EMAIL TECHNICAL SUGGESTIONS OR EVEN SOURCE PATCHES TO THE AUTHOR OR OTHER PEOPLE YOU ARE STRONGLY ADVISED TO PAY CLOSE ATTENTION TO ANY EXPORT/IMPORT AND/OR USE LAWS WHICH APPLY TO YOU. THE AUTHORS OF OPENSSL ARE NOT LIABLE FOR ANY VIOLATIONS YOU MAKE HERE. SO BE CAREFUL, IT IS YOUR RESPONSIBILITY

Redblack balanced tree algorithm in this switch is implemented using Open source from http://sourceforge.net/projects/libredblack/. All copyright listed at http://sourceforge.net/projects/libredblack/ apply.

Math library in this switch is implemented using the Open source software from Sun Microsystems, Inc. All copyrights listed at http://www.radiks.net/~rhuebner/mathlib.html apply.

Web Tree View Script (ftiens4.js) and Browser Detection Script (ua.js) in this switch are implemented using source code from http://www.treeview.net. All copyright listed at http://www.treeview.net apply.

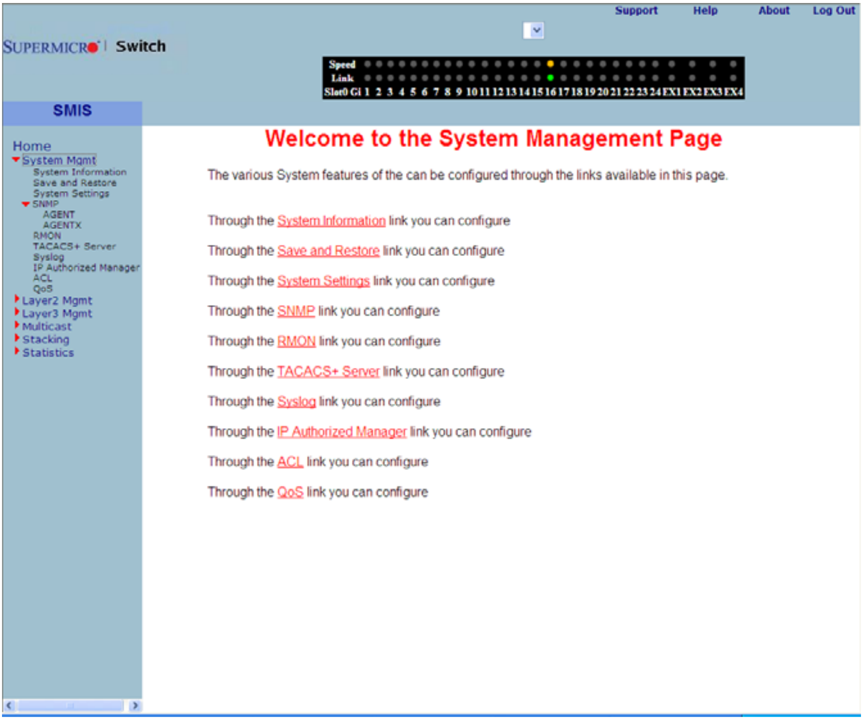
Back to Home page.

This page is best viewed with 1024x768 resolution.

The SYSTEM ACKNOWLEDGEMENT link in the home page brings up the SYSTEM ACKNOWLEDGEMENT page (Figure 7-3), which displays acknowledgement information for the various open source (OpenSSL (Secure Socket Layer), OpenSSH (Secure Shell), etc) software used in the 1/10 Gigabit Ethernet switch module web-based management utility.

7-4 System Management Page

Figure 7-4. System Management Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics

Welcome to the System Management Page

The various System features of the can be configured through the links available in this page.

Through the System Information link you can configure

Through the Save and Restore link you can configure

Through the System Settings link you can configure

Through the SNMP link you can configure

Through the RMON link you can configure

Through the TACACS+ Server link you can configure

Through the Syslog link you can configure

Through the IP Authorized Manager link you can configure

Through the ACL link you can configure

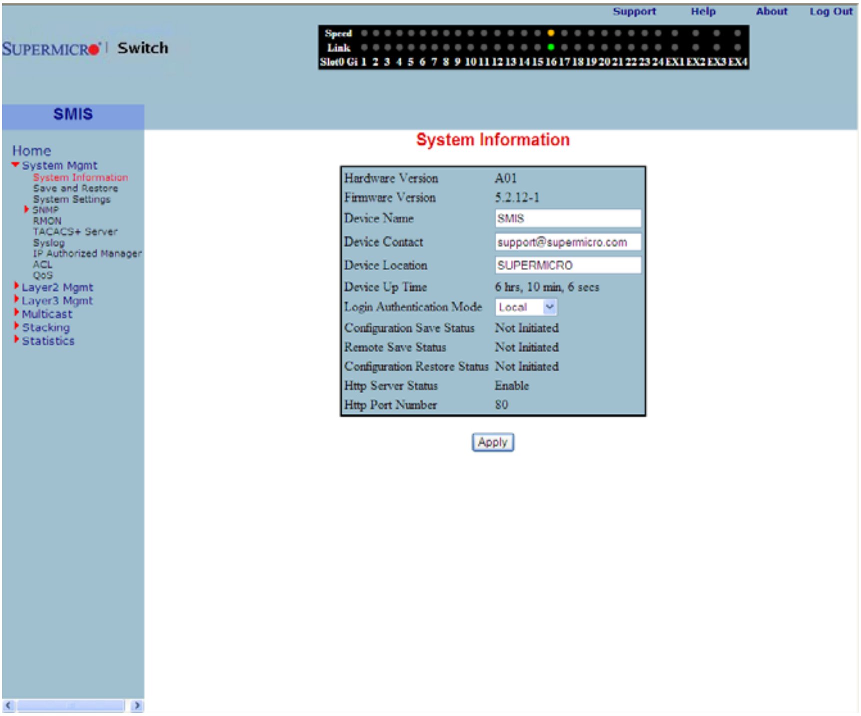
Through the QoS link you can configure

The SYSTEM MANAGEMENT page (Figure 7-4) contains the following links:

- System Information
- Save and Restore
- System Settings
- SNMP
- RMON
- TACACS+ Server
- Syslog
- IP Authorized Manager
- ACL
- QoS

System Information

Figure 7-5. System Information Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

System Information

Hardware Version	A01
Firmware Version	5.2.12-1
Device Name	SMIS
Device Contact	support@supermicro.com
Device Location	SUPERMICRO
Device Up Time	6 hrs, 10 min, 6 secs
Login Authentication Mode	Local
Configuration Save Status	Not Initiated
Remote Save Status	Not Initiated
Configuration Restore Status	Not Initiated
Http Server Status	Enable
Http Port Number	80

Clicking the System Information link brings up the System Information page (Figure 7-5). You can modify the name and description of the switch on this page by entering the necessary details. You can also select the required Login Authentication Mode. Table 7-2 lists the parameters found on this page.

Table 7-2. System Information Page Parameters

Parameter	Description
Hardware Version	This parameter lists the hardware version of the switch and cannot be modified by the user.
Firmware Version	This parameter lists the firmware version of the switch and cannot be modified by the user.
Device Name	A configurable name can be entered into the field for the switch.
Device Contact	Contact information for this switch can be entered into this field.
Device Location	The location for the switch can be entered into this field.
Device up time	The time the device is UP is displayed here.

Table 7-2. System Information Page Parameters (Continued)

Parameter	Description
Login Authentication Mode	The Login Authentication Mode (either Local or Remote login) can be configured here.
Configuration Save Status	The Configuration Save Status is shown here.
Remote Save Status	The Remote Save Status is shown here.
Configuration Restore Status	The Configuration Restore Status is shown here.
HTTP Server Status	The HTTP Server Status is shown here.
HTTP Port Number	The HTTP Port Number is shown here.

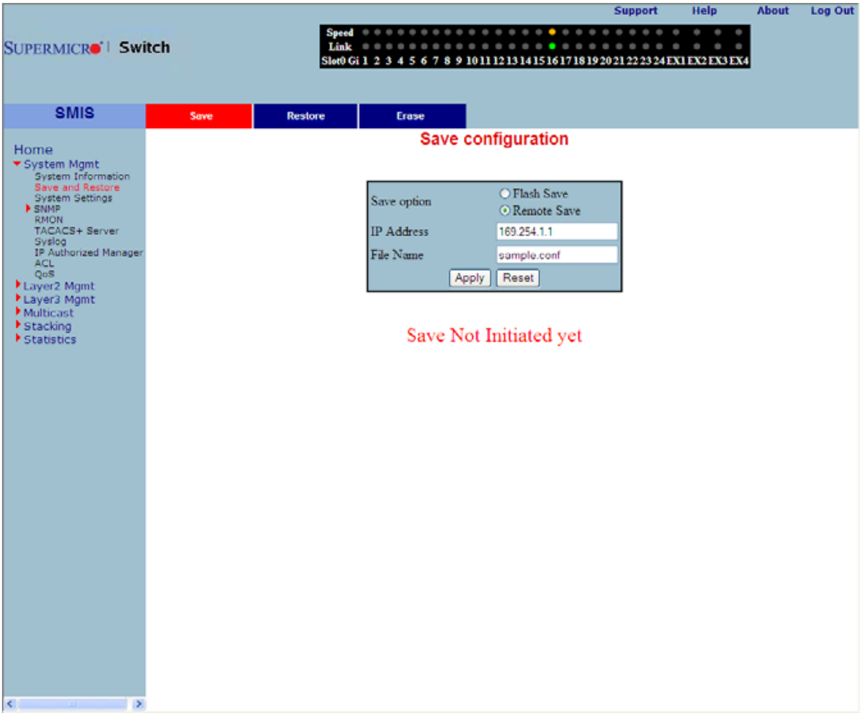
Save and Restore

The SAVE AND RESTORE link of the SYSTEM INFORMATION page allows you to configure SAVE AND RESTORE options through the following control tabs:

- Save
- Restore
- Erase

Save

Figure 7-6. Save Configuration Page


Support
Help
About
Log Out
SUPERMICR● Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Save
Restore
Erase
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply
Reset

Save configuration

Save option ○ Flash Save ● Remote Save

IP Address 169.254.1.1

File Name sample.conf

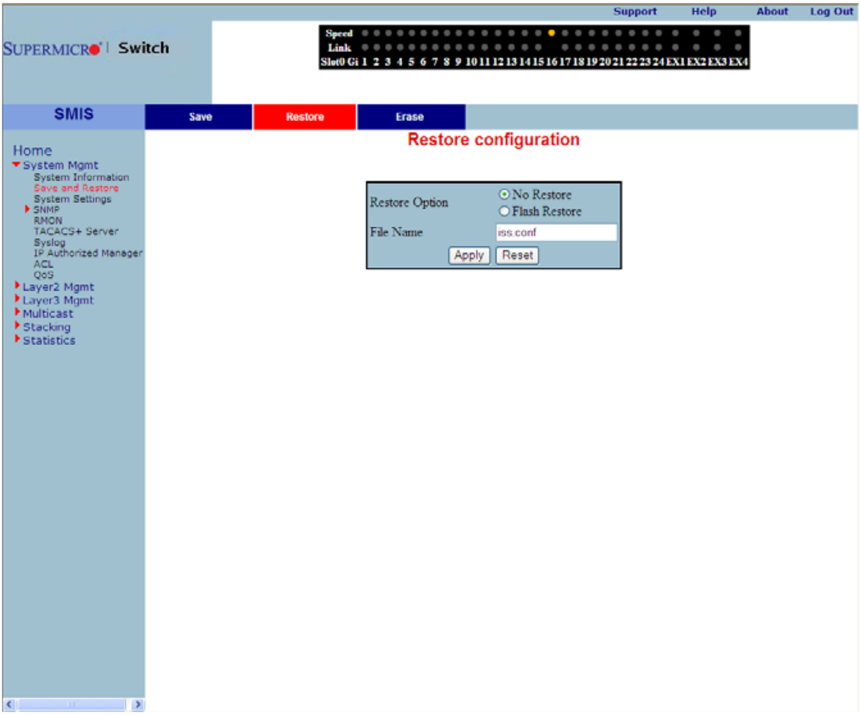
Save Not Initiated yet

Clicking the SAVE tab from the SAVE AND RESTORE link brings up the SAVE CONFIGURATION page (Figure 7-6). This page allows you to save the essential configuration as a FLASH save. You can also configure the IP address of a remote machine with a file name to be stored for remote saving.

After saving the configuration, the mode of restore must be set in the RESTORE page. For the REMOTE SAVE option, the saved configuration file must be copied to the flash file and its restore must be set as FLASH RESTORE to restore the configuration if you restart of switch.

Restore

Figure 7-7. Restore Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Save
Restore
Erase
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Restore configuration
Apply
Reset

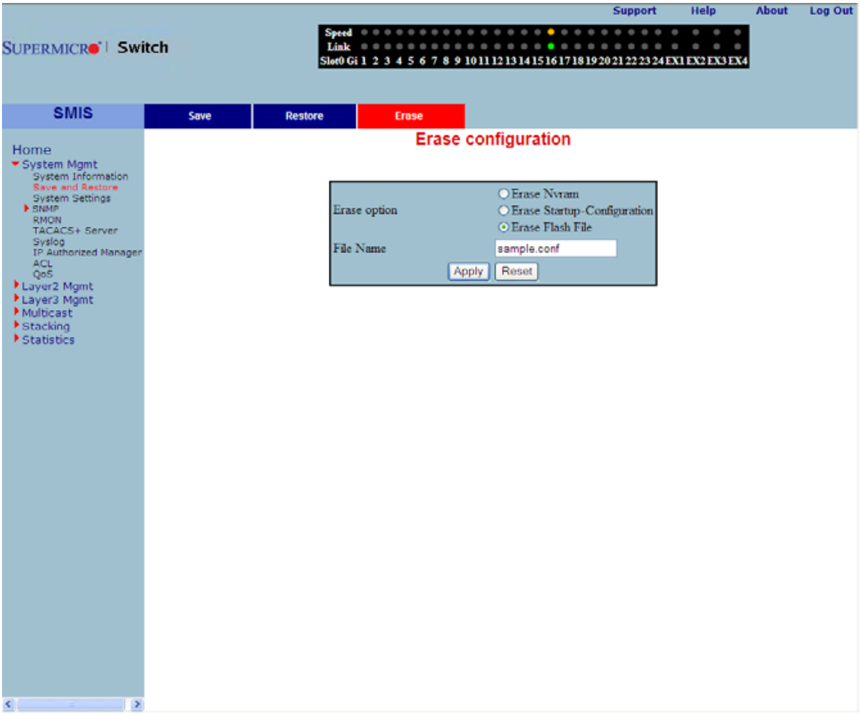
Restore Option ● No Restore ○ Flash Restore

File Name iss.conf

Clicking on the RESTORE tab brings up the RESTORE CONFIGURATION page (Figure 7-7). This page allows you to restore the configuration to ISS from the Flash.

Erase

Figure 7-8. Erase Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Save
Restore
Erase
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply
Reset

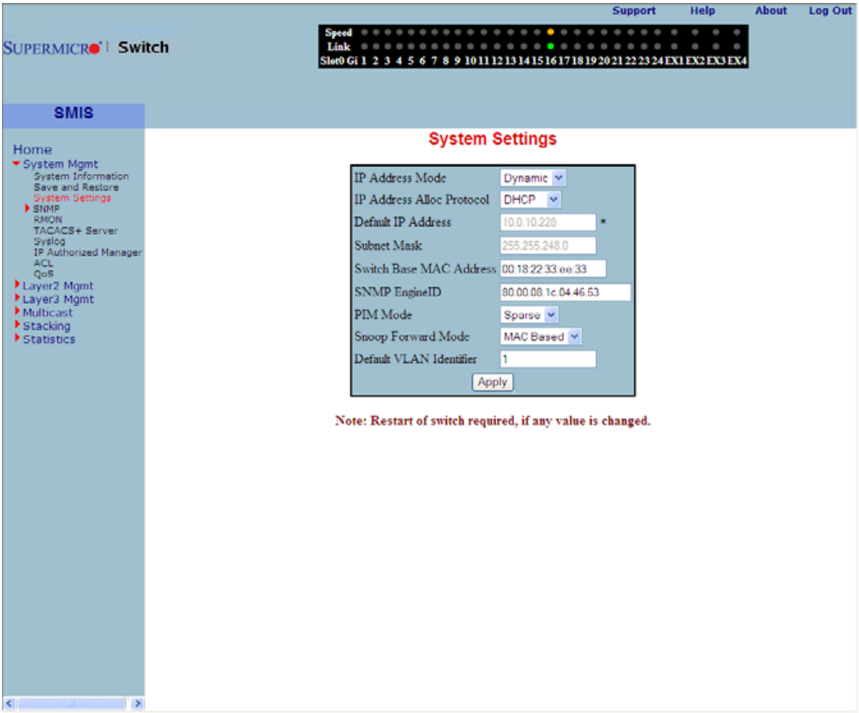
Erase configuration

Erase option	○ Erase Nvram ○ Erase Startup-Configuration ● Erase Flash File
File Name	sample.conf

Clicking on the ERASE tab brings up the ERASE CONFIGURATION page (Figure 7-8). This page allows you to erase a saved configuration from NVRAM, Flash or a specified saved file.

System Settings

Figure 7-9. System Settings Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

System Settings

IP Address Mode	Dynamic
IP Address Alloc Protocol	DHCP
Default IP Address	10.0.10.228 *
Subnet Mask	255.255.248.0
Switch Base MAC Address	00:18:22:33:ee:33
SNMP EngineID	80.00.08.1c.04.46.53
PIM Mode	Sparse
Snoop Forward Mode	MAC Based
Default VLAN Identifier	1

Note: Restart of switch required, if any value is changed.

Clicking on the SYSTEM SETTINGS link brings up the SYSTEM SETTINGS page (Figure 7-9).

You can either choose to obtain the IP address through DHCP or decide to configure it manually. If you choose the manual option, you can configure the DEFAULT IP ADDRESS and SUBNET MASK for the management interface of the switch. If you choose the DYNAMIC option, then the IP address is obtained based on the IP Address Allocation Protocol. You must restart the switch for the configuration to take effect.

Table 7-3 lists the parameters found on this page.

Table 7-3. System Settings Page Parameters

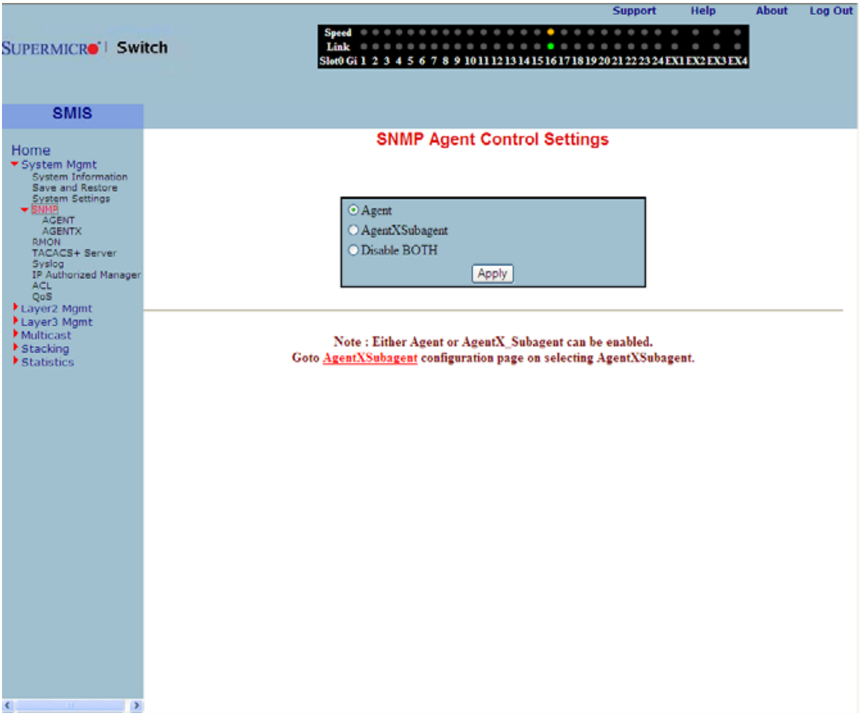
Parameter	Description
IP Address Mode	Specifies the IP Address Mode used.
IP Address Allow Protocol	Specifies the IP address allocation protocol used.
Default IP Address	Specifies the Default IP address.
Subnet Mask	Specifies the Subnet Mask used.

Table 7-3. System Settings Page Parameters (Continued)

Parameter	Description
Switch Base MAC Address	Specifies the switch's Base MAC Address.
SNMP Engine ID	Specifies the SNMP Engine ID used.
PIM Mode	Specifies the PIM Mode used.
Snoop Forward Mode	Specifies the Snoop Forward Mode used.
Default VLAN Identifier	Specifies the Default VLAN Identifier used.

SNMP

Figure 7-10. SNMP Agent Control Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

SNMP Agent Control Settings

● Agent
○ AgentXSubagent
○ Disable BOTH

Note : Either Agent or AgentX_Subagent can be enabled.
Goto AgentXSubagent configuration page on selecting AgentXSubagent.

Clicking on the SNMP link brings up the SNMP Agent Control Settings page (Figure 7-10). This page allows to choose either Agent, AgentXSubagent or Disable BOTH. The sub links of the SNMP are classified as **Agent** or **AgentX**.

The AGENT link allows you to configure SNMP Agent related configuration through the following control tabs:

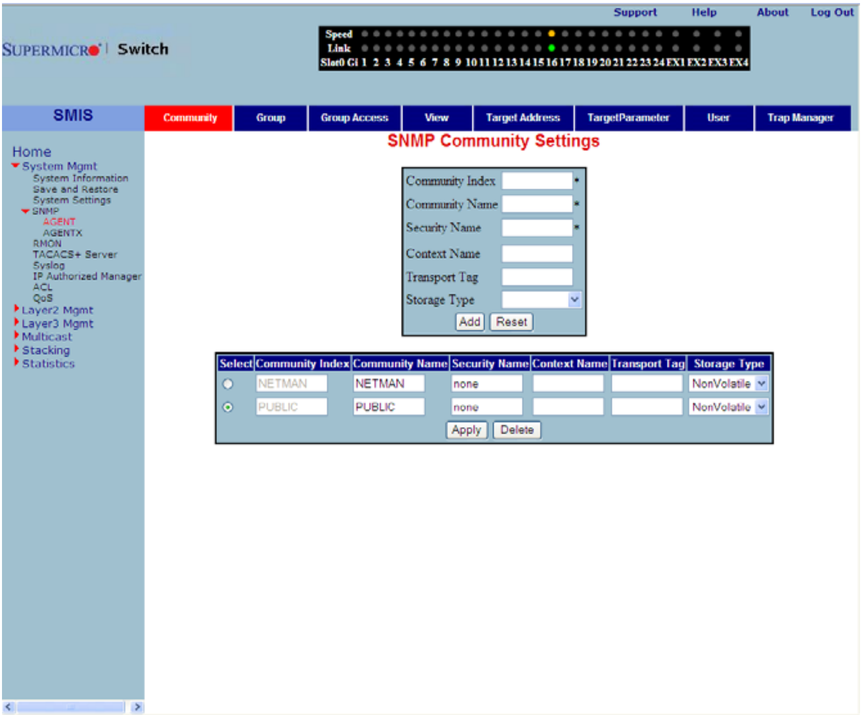
- Community
- Group
- Group Access
- View
- Target Address
- Target Parameter
- User
- Trap Manager

By default, the COMMUNITY tab is loaded.

The AGENTX link opens the SNMP AGENTX SUBAGENT SETTINGS page. This page displays controls for TRANSPORT DOMAIN, IP ADDRESS TYPE, MASTER IP ADDRESS and MASTER PORT NUMBER. TRANSPORT DOMAIN specifies the transport domain to be used. The IP ADDRESS TYPE enables you to select the address type as **IPv4** or **IPv6**.

Community

Figure 7-11. SNMP Community Settings Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics

SNMP Community Settings

Community Index *
Community Name *
Security Name *
Context Name
Transport Tag
Storage Type

Add
Reset

Select	Community Index	Community Name	Security Name	Context Name	Transport Tag	Storage Type
○	NETMAN	NETMAN	none			NonVolatile
●	PUBLIC	PUBLIC	none			NonVolatile

Apply
Delete

Clicking on the Community tab brings up the SNMP Community Settings page (Figure 7-11). This page displays the access permissions of the already configured SNMP Managers. This page allows you to configure new managers to the table and delete existing managers from the same.

Table 7-4 lists the parameters found on this page.

Table 7-4. SNMP Community Settings Page Parameters

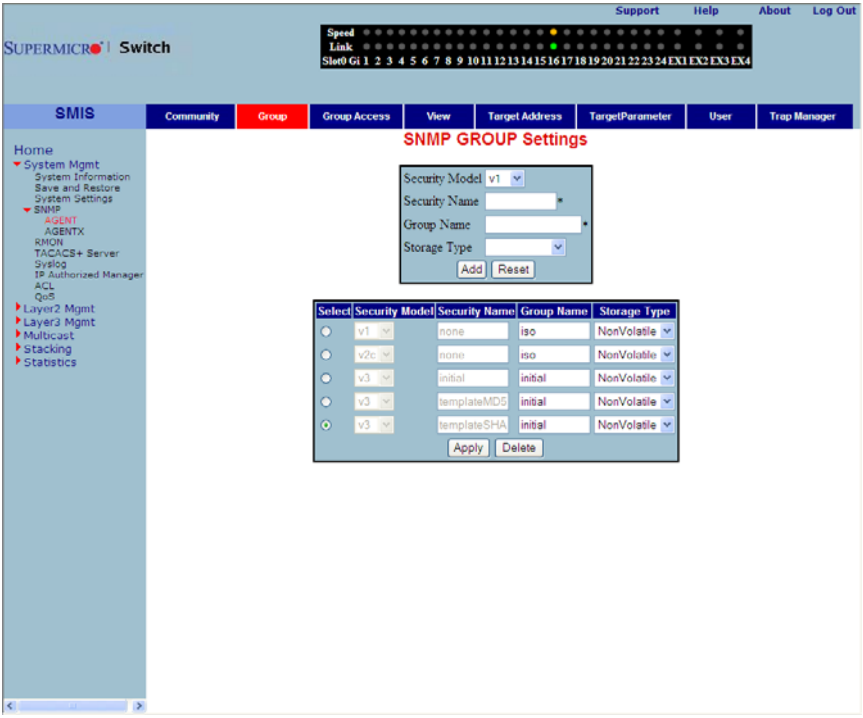
Parameter	Description
Community Index	This field allows you to set the Community Index setting.
Community Name	This field allows you to set the Community Name setting.
Security Name	This field allows you to set the Security Name setting.
Context Name	This field allows you to set the Context Name setting.

Table 7-4. SNMP Community Settings Page Parameters (Continued)

Parameter	**Description**
Transport Tag	This field allows you to set the Transport Tag setting.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

Group

Figure 7-12. SNMP Group Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset
Apply
Delete

SNMP GROUP Settings

Security Model: v1
Security Name: *
Group Name: *
Storage Type:

Select	Security Model	Security Name	Group Name	Storage Type
○	v1	none	iso	NonVolatile
○	v2c	none	iso	NonVolatile
○	v3	initial	initial	NonVolatile
○	v3	templateMD5	initial	NonVolatile
●	v3	templateSHA	initial	NonVolatile

Clicking on the GROUP tab brings up the SNMP GROUP SETTINGS page (Figure 7-12). This page displays SNMP group settings. Each entry in the table maps a combination of SECURITY MODEL and SECURITY NAME into a GROUP NAME, which is used to define an access control policy. In addition, this page displays the STORAGE TYPE of the group table.

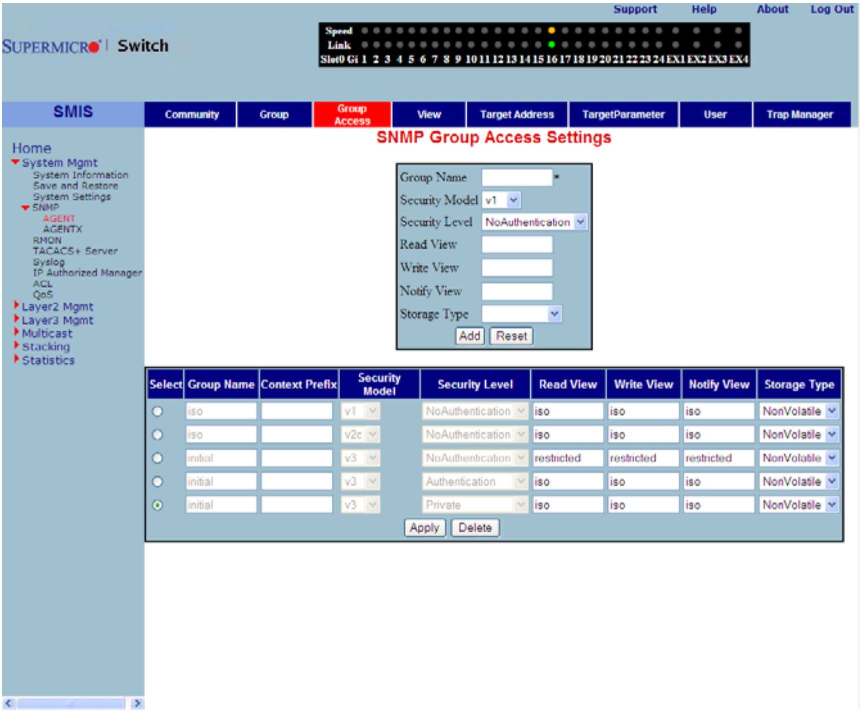
Table 7-5 lists the parameters found on this page.

Table 7-5. SNMP Group Settings Page Parameters

Parameter	Description
Security Model	This drop-down list box allows you to set the Security Model used.
Security Name	This field allows you to set the Security Name setting.
Group Name	This field allows you to set the Group Name setting.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

Group Access

Figure 7-13. SNMP Group Access Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics

SNMP Group Access Settings

Group Name *
Security Model v1
Security Level NoAuthentication
Read View
Write View
Notify View
Storage Type

Add
Reset

Select	Group Name	Context Prefix	Security Model	Security Level	Read View	Write View	Notify View	Storage Type
○	iso		v1	NoAuthentication	iso	iso	iso	NonVolatile
○	iso		v2c	NoAuthentication	iso	iso	iso	NonVolatile
○	initial		v3	NoAuthentication	restricted	restricted	restricted	NonVolatile
○	initial		v3	Authentication	iso	iso	iso	NonVolatile
●	initial		v3	Private	iso	iso	iso	NonVolatile

Apply
Delete

Clicking on the GROUP ACCESS tab brings up the SNMP GROUP ACCESS SETTINGS page (Figure 7-13). This page displays access rights of groups. Each entry is indexed by a GROUP NAME, a CONTEXT PREFIX, a SECURITY MODEL and a SECURITY LEVEL. Proper VIEW NAME (READ, WRITE and MODIFY) must be used for access control checking. It also displays the STORAGE TYPE of the Group Access table. A SNMP Group has to be created prior to the Group Access configuration.

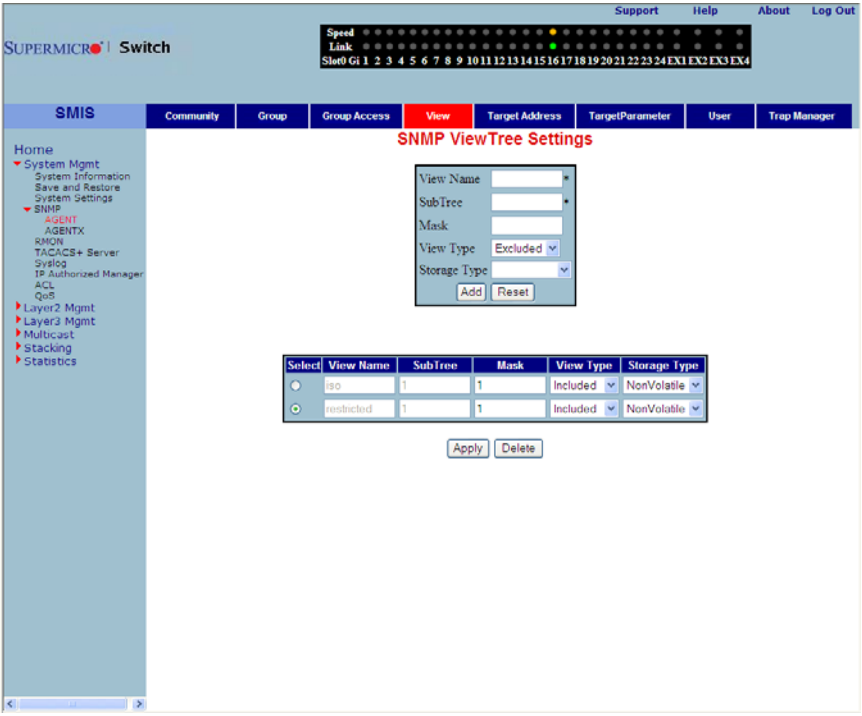
Table 7-6 lists the parameters found on this page.

Table 7-6. SNMP Group Access Settings Page Parameters

Parameter	Description
Group Name	This field allows you to set the Group Name setting.
Security Model	This drop-down list box allows you to set the Security Model used.
Security Level	This drop-down list box allows you to set the Security Level used.
Read View	This field allows you to set the Read View used.
Write View	This field allows you to set the Write View used.
Notify View	This field allows you to set the Notify View used.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

View

Figure 7-14. SNMP ViewTree Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
SNMP ViewTree Settings
Add
Reset
Apply
Delete

View Name	*
SubTree	*
Mask	
View Type	Excluded
Storage Type	

Select	View Name	SubTree	Mask	View Type	Storage Type
○	iso	1	1	Included	NonVolatile
●	restricted	1	1	Included	NonVolatile

Clicking on the VIEW tab brings up the SNMP VIEWTREE SETTINGS page (Figure 7-14). The SUBTREE, when combined with the corresponding instance of MASK, defines a family of view subtrees. VIEW NAME is the name for a family of view subtrees. It also displays the STORAGE TYPE of the VIEWTREE table. The SNMP GROUP and SNMP ACCESS settings have to be created prior to the GROUP VIEW configuration.

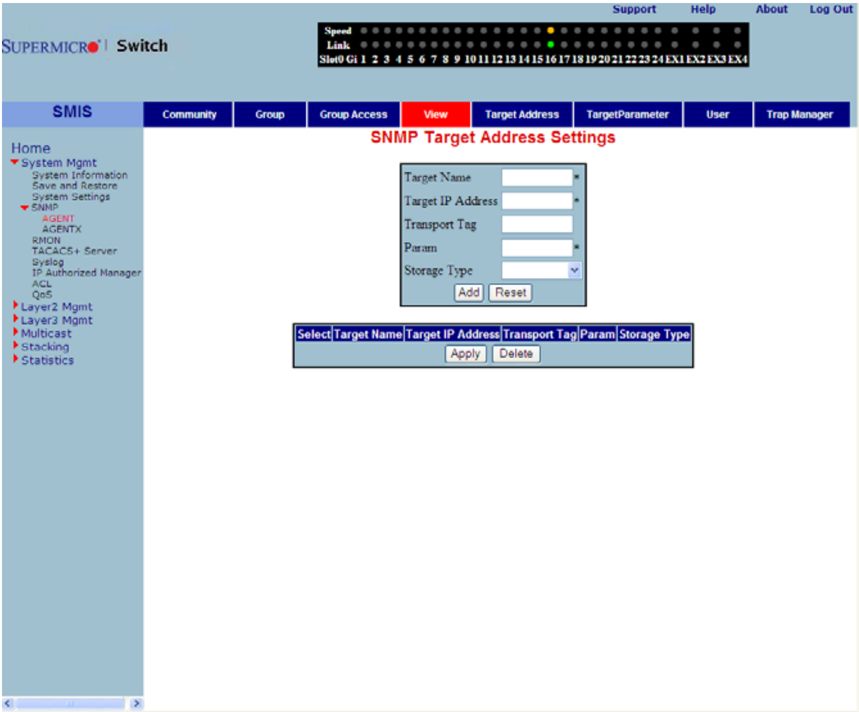
Table 7-7 lists the parameters found on this page.

Table 7-7. SNMP ViewTree Settings Page Parameters

Parameter	Description
View Name	This field allows you to set the View Name setting.
SubTree	This field allows you to set the SubTree setting.
Mask	This field allows you to set the Mask setting.
View Type	This drop-down list box allows you to set the View Type.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

Target Address

Figure 7-15. SNMP Target Address Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
SNMP Target Address Settings
Target Name *
Target IP Address *
Transport Tag
Param *
Storage Type
Add
Reset
Select
Target Name
Target IP Address
Transport Tag
Param
Storage Type
Apply
Delete

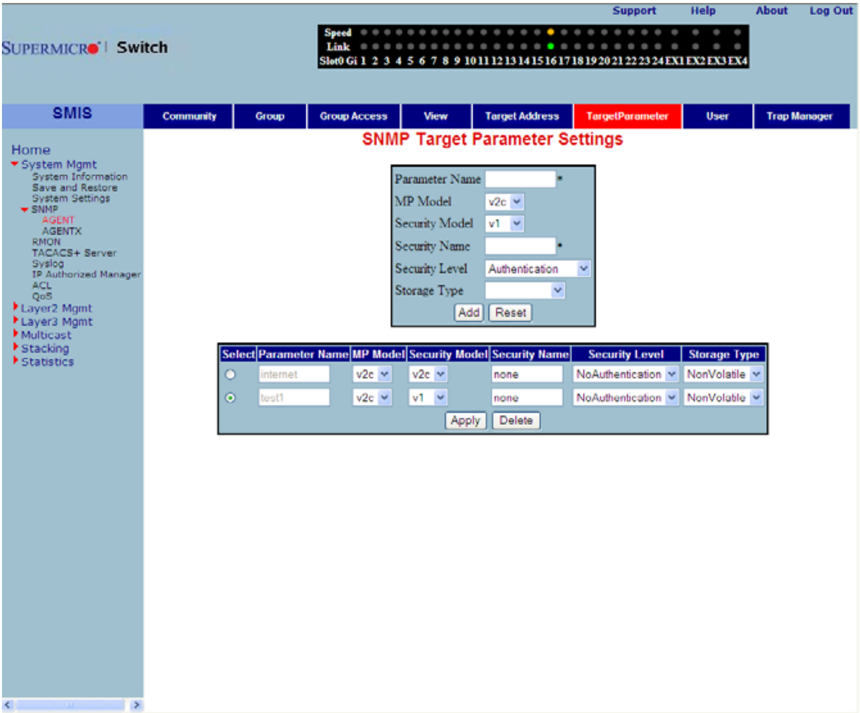
Clicking on the TARGET ADDRESS tab brings up the SNMP TARGET ADDRESS SETTINGS page (Figure 7-15). Table 7-8 lists the parameters found on this page.

Table 7-8. SNMP Target Address Settings Page Parameters

Parameter	Description
Target Name	This field allows you to set the Target Name, which is a unique identifier.
Target IP Address	This field allows you to set the Target IP Address, which specifies a target address to be used in the generation of SNMP operations.
Transport Tag	This field allows you to set the Transport Tag value, which is used to select a target address for a particular operation.
Param	This field allows you to set Param, which contains SNMP parameters to be used when generating messages to be sent to transport address. The type of notification of the SNMP Trap Settings can be configured as **Trap** or **Inform**.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

Target Parameter

Figure 7-16. SNMP Target Parameter Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
SNMP Target Parameter Settings
Add
Reset
Apply
Delete

Parameter Name	*
MP Model	v2c
Security Model	v1
Security Name	*
Security Level	Authentication
Storage Type	

Select	Parameter Name	MP Model	Security Model	Security Name	Security Level	Storage Type
○	internet	v2c	v2c	none	NoAuthentication	NonVolatile
●	test1	v2c	v1	none	NoAuthentication	NonVolatile

Clicking on the Target Parameter tab brings up the SNMP Target Parameter Settings page (Figure 7-16). The Target Param specifies SNMP target information to be used in the generation of SNMP messages. Table 7-9 lists the parameters found on this page.

Table 7-9. SNMP Target Parameter Settings Page Parameters

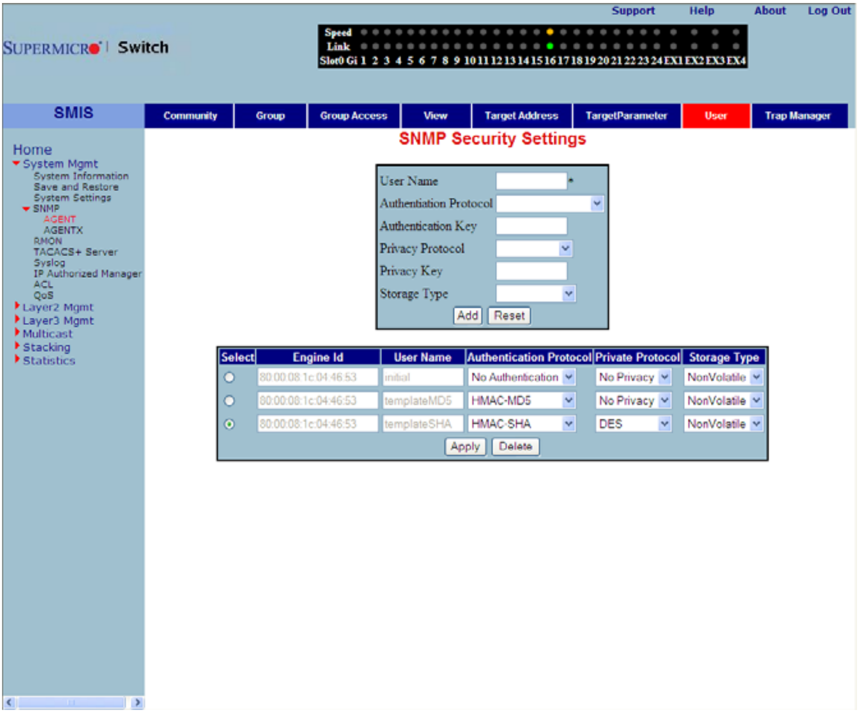
Parameter	Description
Parameter Name	This field allows you to set the Parameter Name setting, which is a unique identifier.
MP Model	This drop-down list box allows you to set the MP Model used when generating SNMP messages using this entry.
Security Model	This drop-down list box allows you to set the Security Model used when generating SNMP messages using this entry.
Security Name	This field allows you to set the Security Name setting, which identifies the current Param Name, on whose behalf SNMP messages will be generated.

Table 7-9. SNMP Target Parameter Settings Page Parameters (Continued)

Parameter	**Description**
Security Level	This drop-down list box allows you to set the Security Level used when generating SNMP messages.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

User

Figure 7-17. SNMP Security Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics

SNMP Security Settings

User Name	*
Authentiation Protocol	
Authentication Key	
Privacy Protocol	
Privacy Key	
Storage Type	

Add
Reset

Select	Engine Id	User Name	Authentication Protocol	Private Protocol	Storage Type
○	80:00:08:1c:04:46:53	initial	No Authentication	No Privacy	NonVolatile
○	80:00:08:1c:04:46:53	templateMD5	HMAC-MD5	No Privacy	NonVolatile
●	80:00:08:1c:04:46:53	templateSHA	HMAC-SHA	DES	NonVolatile

Apply
Delete

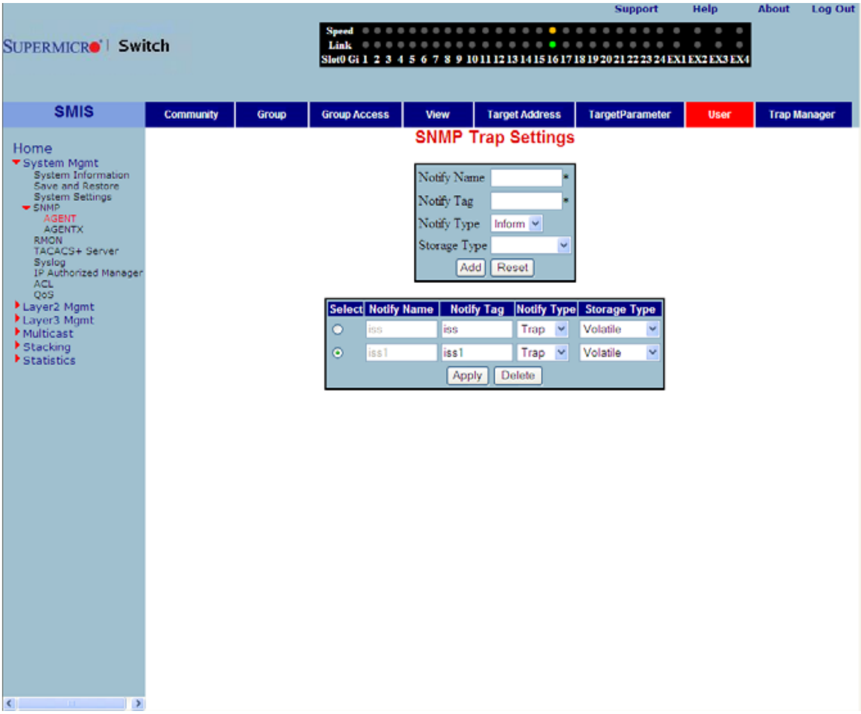
Clicking on the USER tab brings up the SNMP SECURITY SETTINGS Page (Figure 7-17). This page specifies a user configured in the SNMP for the User-based Security Model. Table 7-10 lists the parameters found on this page.

Table 7-10. SNMP Security Settings Page Parameters

Parameter	Description
User Name	This field allows you to set the User Name, which is the (User-based Security) Model dependent security ID.
Authentication Protocol	This drop-down list box allows you to set the Authentication Protocol, which is the type of authentication protocol used for authentication.
Authentication Key	This field allows you to set the Authentication Key, which is the secret authentication key used for messages sent on behalf of this user to/from the SNMP.
Privacy Protocol	This drop-down list box allows you to set the Privacy Protocol, which is the type of protocol that is used in this case.
Privacy Key	This field allows you to set the Privacy key, which is an indication of whether messages sent on behalf of a user to/from the SNMP, can be protected from disclosure.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

Trap Manager

Figure 7-18. SNMP Trap Settings Page


Support
Help
About
Log Out
SUPERMICR | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Community
Group
Group Access
View
Target Address
TargetParameter
User
Trap Manager
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset
Apply
Delete

SNMP Trap Settings

Notify Name	*
Notify Tag	*
Notify Type	Inform
Storage Type	

Select	Notify Name	Notify Tag	Notify Type	Storage Type
○	iss	iss	Trap	Volatile
●	iss1	iss1	Trap	Volatile

Clicking on the TRAP MANAGER tab brings up the SNMP TRAP SETTINGS page (Figure 7-18). An entry in the table selects a set of management targets, which must receive notifications. Table 7-11 lists the parameters found on this page.

Table 7-11. SNMP Trap Settings Page Parameters

Parameter	Description
Notify Name	This field allows you to set the Notify Name setting, which is a unique identifier associated with the entry.
Notify Tag	This field allows you to set the Notify Tag setting. This contains a single tag value, which is used to select entries in the Target Address Table. Any entry in the Target Address Table, which contains a tag value equal to the value of an instance of this Trap Manager, is selected.
Notify Type	This drop-down list box allows you to set the Notify Type setting, which can be configured as Trap or Inform.
Storage Type	This drop-down list box allows you to set the Storage Type, which can be configured as **Volatile** or **Non-Volatile**.

RMON

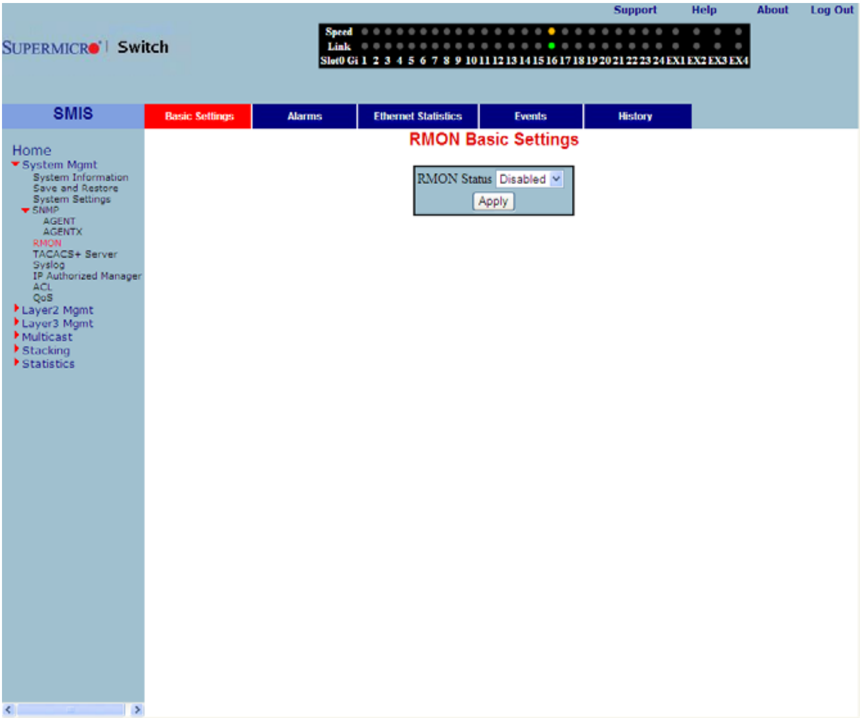
The RMON link allows you to configure RMON parameters. The following control tabs are available for configuration:

- Basic Settings
- Alarms
- Ethernet Statistics
- Events
- History

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-19. RMON Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Alarms
Ethernet Statistics
Events
History
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

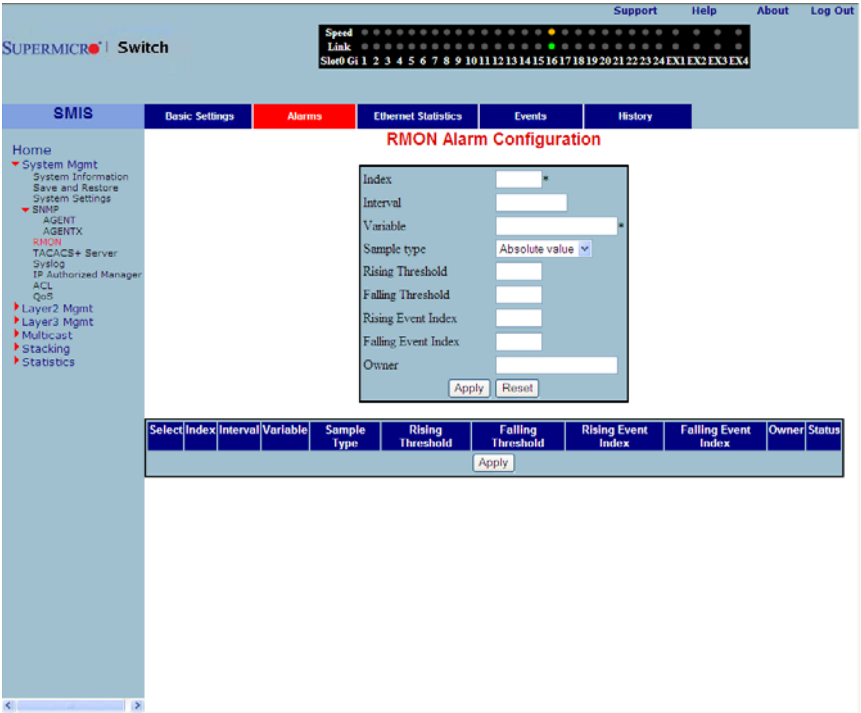
RMON Basic Settings

RMON Status: Disabled

Clicking the BASIC SETTINGS tab for RMON brings up the RMON BASIC SETTINGS page (Figure 7-19). On this page you only need to configure RMON STATUS, which allows you to enable/disable RMON on the switch.

Alarms

Figure 7-20. RMON Alarm Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Alarms
Ethernet Statistics
Events
History
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
RMON Alarm Configuration
Index *
Interval
Variable *
Rising Threshold
Falling Threshold
Rising Event Index
Falling Event Index
Owner
Apply
Reset
Select
Index
Interval
Variable
Sample Type
Rising Threshold
Falling Threshold
Rising Event Index
Falling Event Index
Owner
Status
Apply

Sample type: Absolute value

Clicking on the ALARMS tab brings up the RMON ALARM CONFIGURATION page (Figure 7-20). Table 7-12 lists the parameters found on this page.

Table 7-12. RMON Alarm Configuration Page Parameters

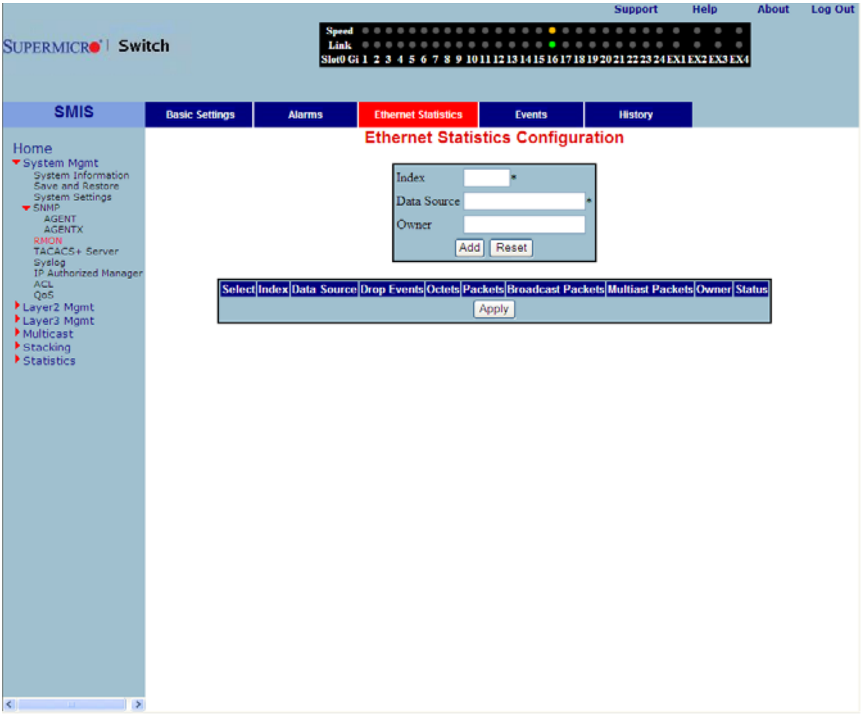
Parameter	Description
Index	Specifies the table index.
Interval	Specifies the time interval for which the alarm monitors the variable.
Variable	Specifies the MIB object on which the alarm is set.
Sample Type	Specifies the method of sampling the selected variable and calculating the value to be compared against the thresholds. The value of this object can be **Absolute** or **Delta**.
Rising Threshold	Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, an alarm is generated. It occurs if the startup alarm is set either as a **Rising Alarm** or a **Rising or Falling Alarm**.

Table 7-12. RMON Alarm Configuration Page Parameters (Continued)

Parameter	Description
Falling Threshold	Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, an alarm is generated. It occurs if the startup alarm is set as **Falling Alarm** or **Rising or Falling Alarm**.
Rising Event Index	Indicates the index of the event to be raised when the Rising threshold is reached.
Falling Event Index	Indicates the index of the event to be raised when the Falling threshold is reached.
Owner	Specifies the owner of the alarm.
Status	Specifies the current status of alarm.

Ethernet Statistics

Figure 7-21. Ethernet Statistics Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Alarms
Ethernet Statistics
Events
History
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Ethernet Statistics Configuration
Index *
Data Source *
Owner
Add
Reset
Select
Index
Data Source
Drop Events
Octets
Packets
Broadcast Packets
Multiast Packets
Owner
Status
Apply

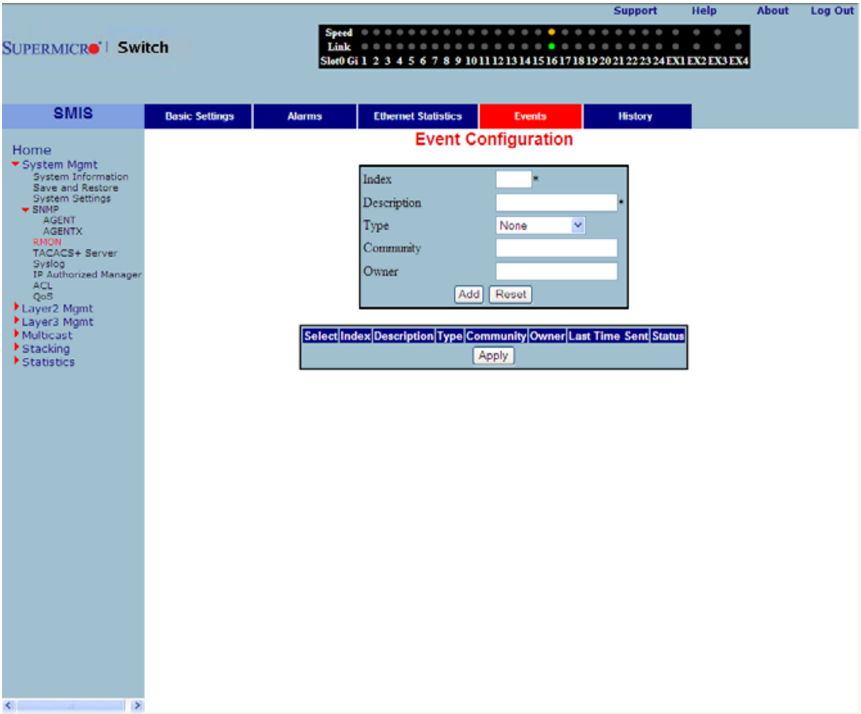
Clicking on the ETHERNET STATISTICS tab brings up the ETHERNET STATISTICS CONFIGURATION page (Figure 7-21). Table 7-13 lists the parameters found on this page.

Table 7-13. Ethernet Statistics Configuration Page Parameters

Parameter	Description
Index	Specifies the index to the table.
Data Source	Specifies the SNMP object ID of the variable on which the statistics is being collected.
Drop Events	Specifies the number of events in which the packets were dropped due to lack of resources.
Octets	Specifies the total number of octets received from the network.
Packets	Specifies the total number of packets received from the network.
Broadcast Packets	Specifies the total number of broadcast packets received from the network.
Multicast Packets	Specifies the total number of multicast packets received from the network.
Owner	Specifies the owner string.
Status	Indicates the status of this entry.

Events

Figure 7-22. Event Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Alarms
Ethernet Statistics
Events
History
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Event Configuration
Index
Description
Type
Community
Owner
Add
Reset
Select
Index
Description
Type
Community
Owner
Last Time Sent
Status
Apply

Type: None

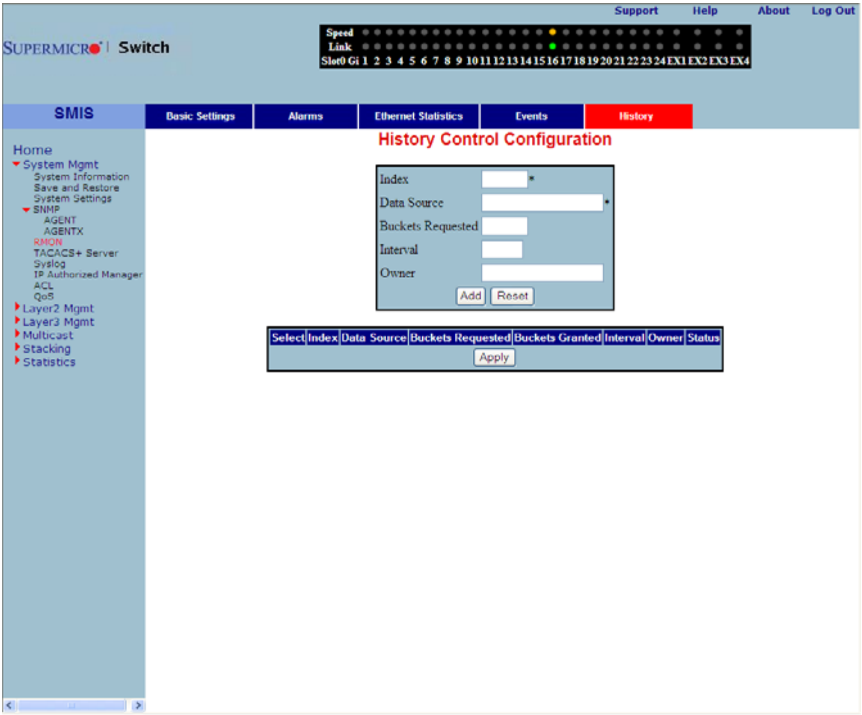
Clicking on the EVENTS tab brings up the EVENT CONFIGURATION page (Figure 7-22). Table 7-14 lists the parameters found on this page.

Table 7-14. Event Configuration Page Parameters

Parameter	Description
Index	Specifies the index to the Events table.
Description	Describes the event.
Type	Specifies the event configured can be a Log, or an SNMP trap, or both, or none.
Community	Specifies the SNMP community string used for this trap. This is relevant when an SNMP trap is requested for an event.
Owner	Indicates the owner of this event.
Last Time Sent	Denotes the time this event entry last generated an event.

History

Figure 7-23. History Control Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Alarms
Ethernet Statistics
Events
History
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
History Control Configuration
Index *
Data Source *
Buckets Requested
Interval
Owner
Add
Reset
Apply

Select	Index	Data Source	Buckets Requested	Buckets Granted	Interval	Owner	Status

Clicking on the HISTORY tab brings up the HISTORY CONTROL CONFIGURATION page (Figure 7-23). Table 7-15 lists the parameters found on this page.

Table 7-15. History Control Configuration Page Parameters

Parameter	Description
Index	Specifies the index to the table.
Data Source	Specifies the SNMP object id of the variable on which the history is being collected.
Buckets Requested	Indicates the number of buckets to be configured for collecting the RMON statistics.
Buckets Granted	Denotes the number of bucket granted for collecting the RMON statistics.
Interval	Specifies the time interval between two successive polling to collect the statistics.
Owner	Denotes the owner of the RMON group of statistics.
Status	Specifies the status of History Control Entry as either Valid or Invalid.

TACACS+ Server

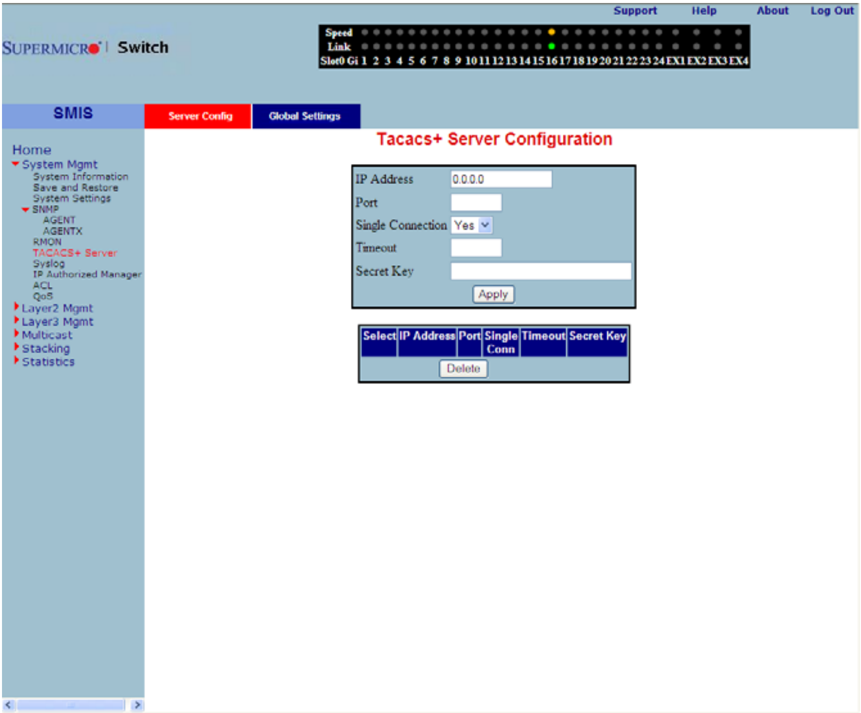
The TACACS+ SERVER link allows you to configure TACACS+ Server parameters. The following control tabs are available for configuration:

- Server Config
- Global Settings

By default, the SERVER CONFIG tab is loaded.

Server Config

Figure 7-24. TACACS+ Server Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Server Config
Global Settings
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply
Delete

Tacacs+ Server Configuration

IP Address 0.0.0.0
Port
Single Connection Yes
Timeout
Secret Key

Select	IP Address	Port	Single Conn	Timeout	Secret Key

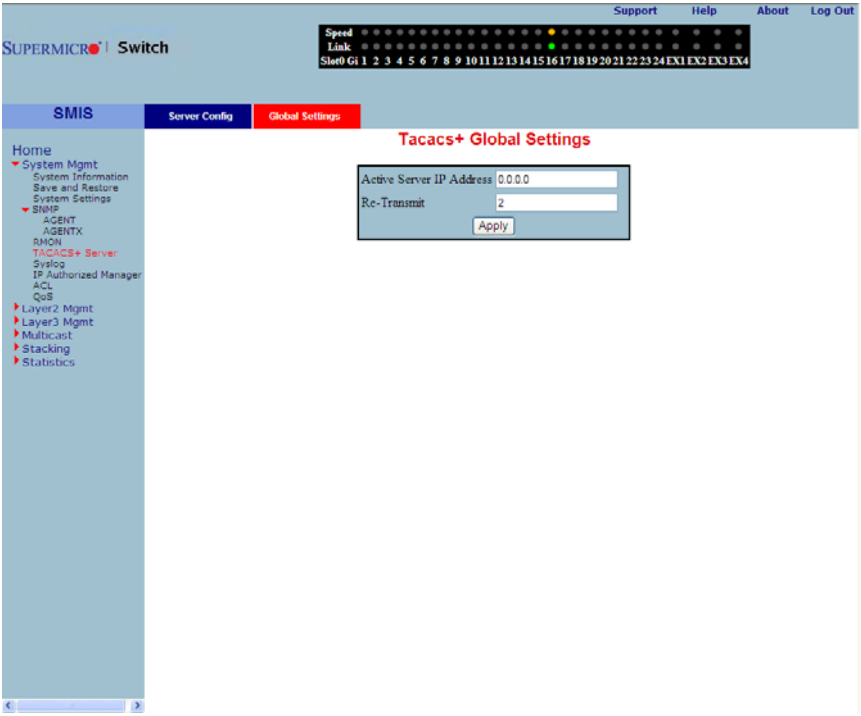
Clicking on the SERVER CONFIG tab brings up the TACACS+ SERVER CONFIGURATION page (Figure 7-24). Table 7-16 lists the parameters found on this page.

Table 7-16. TACACS+ Server Configuration Page Parameters

Parameter	Description
IP Address	Specifies the IP address used.
Port	Specifies the Port used.
Single Connection	Specifies the single connection.
Timeout	Specifies the timeout.
Secret Key	Specifies the secret key.

Global Settings

Figure 7-25. TACACS+ Global Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Server Config
Global Settings
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Tacacs+ Global Settings
Apply

Active Server IP Address 0.0.0.0

Re-Transmit 2

Clicking on the Global Settings tab brings up the TACACS+ Global Settings page (Figure 7-25). Table 7-17 lists the parameters found on this page.

Table 7-17. TACACS+ Global Settings Page Parameters

Parameter	**Description**
Active Server IP Address	Specifies the active server IP address.
Re-Transmit	Specifies the re-transmit.

Syslog

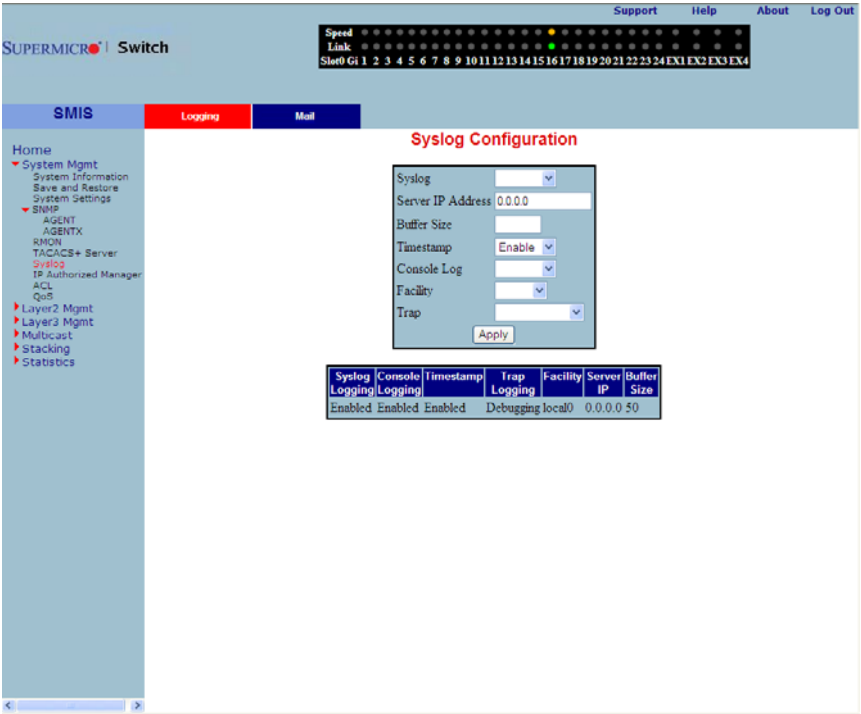
The Syslog link allows you to configure Syslog parameters. The following control tabs are available for configuration:

- Logging
- Mail

By default, the LOGGING tab is loaded.

Logging

Figure 7-26. Syslog Configuration Logging Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Logging
Mail
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Syslog Configuration

Syslog	
Server IP Address	0.0.0.0
Buffer Size	
Timestamp	Enable
Console Log	
Facility	
Trap	

Syslog Logging	Console Logging	Timestamp	Trap Logging	Facility	Server IP	Buffer Size
Enabled	Enabled	Enabled	Debugging	local0	0.0.0.0	50

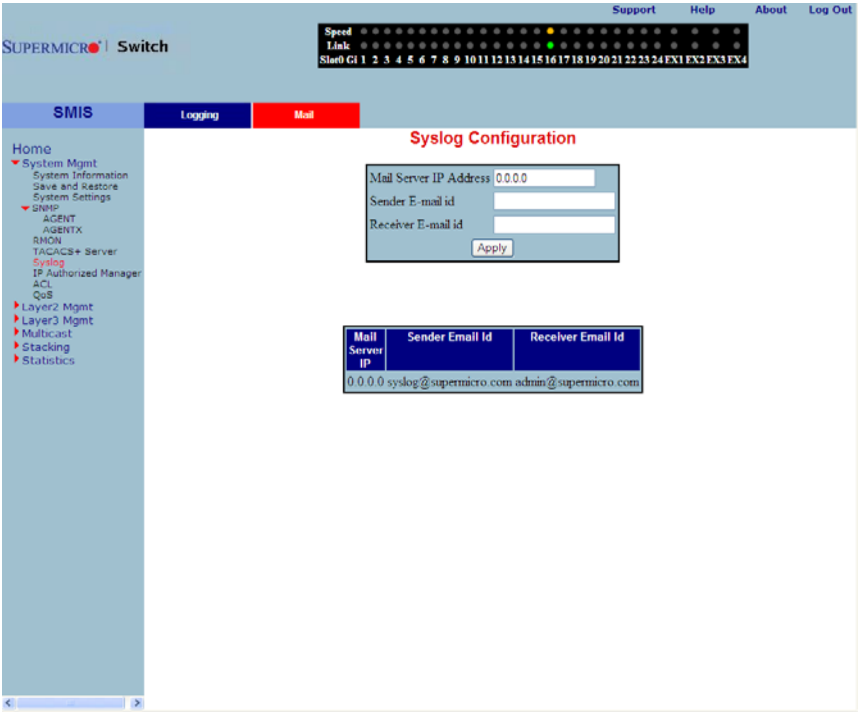
Clicking on the LOGGING tab brings up the SYSLOG CONFIGURATION page (Figure 7-26). Table 7-18 lists the parameters found on this page.

Table 7-18. Syslog Configuration Page Parameters

Parameter	Description
Syslog	Specifies the syslog.
Server IP Address	Specifies the server IP address.
Buffer Size	Specifies the buffer size.
Timestamp	Specifies the timestamp.
Console Log	Specifies the console log.
Facility	Specifies the facility.
Trap	Specifies the trap.

Mail

Figure 7-27. Syslog Configuration Mail Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Logging
Mail
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Syslog Configuration

Mail Server IP Address: 0.0.0.0
Sender E-mail id:
Receiver E-mail id:

Mail Server IP	Sender Email Id	Receiver Email Id
0.0.0.0	syslog@supermicro.com	admin@supermicro.com

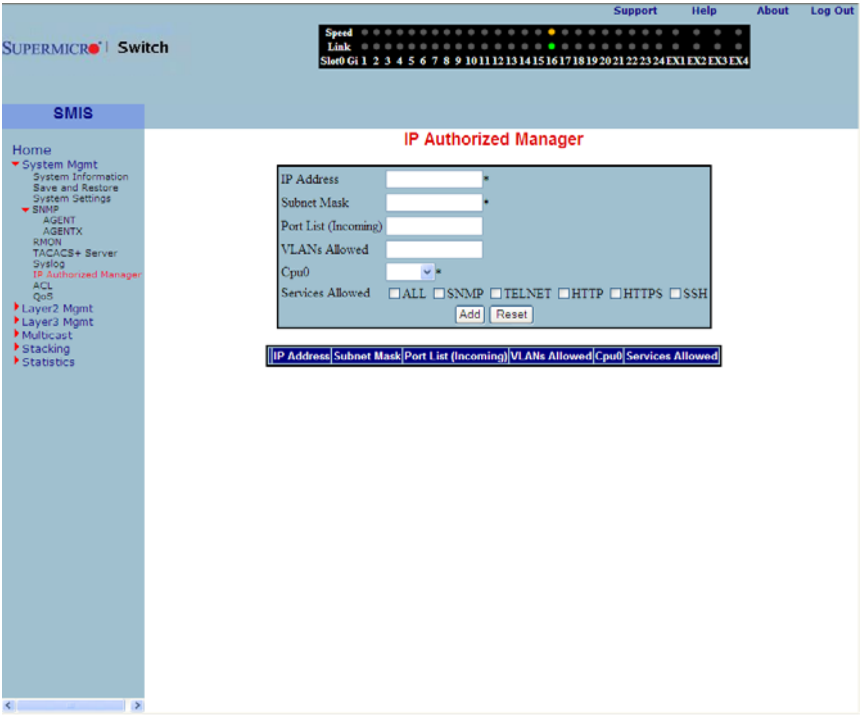
Clicking on the MAIL tab brings up the SYSLOIG CONFIGURATION page (Figure 7-27). Table 7-19 lists the parameters found on this page.

Table 7-19. Syslog Configuration Page Parameters

Parameter	Description
Mail Server IP Address	Specifies the mail server IP adddress.
Sender E-mail ID	Specifies the sender E-mail ID.
Receiver E-mail ID	Specifies the receiver E-mail ID.

IP Authorized Manager

Figure 7-28. IP Authorized Manager Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
IP Authorized Manager
IP Address *
Subnet Mask *
Port List (Incoming)
VLANs Allowed
Cpu0 *
Services Allowed ☐ALL ☐SNMP ☐TELNET ☐HTTP ☐HTTPS ☐SSH
Add
Reset
IP Address | Subnet Mask | Port List (Incoming) | VLANs Allowed | Cpu0 | Services Allowed

Clicking on the IP AUTHORIZED MANAGER tab brings up the IP AUTHORIZED MANAGER page (Figure 7-28). Table 7-20 lists the parameters found on this page.

Table 7-20. IP Authorized Manager Page Parameters

Parameter	Description
IP Address	Specifies the IP Address of Manager.
Subnet Mask	Indicates the Mask for specified IP Address.
Port List (Incoming)	Allows Ports' access to the switch through the manager.
VLANs Allowed	Allows VLAN access to the switch through the manager.
Cpu0	Allows/denies the OOB Interface access to the switch through the manager.
Services Allowed	Allows Services' access to the switch through the manager.

ACL

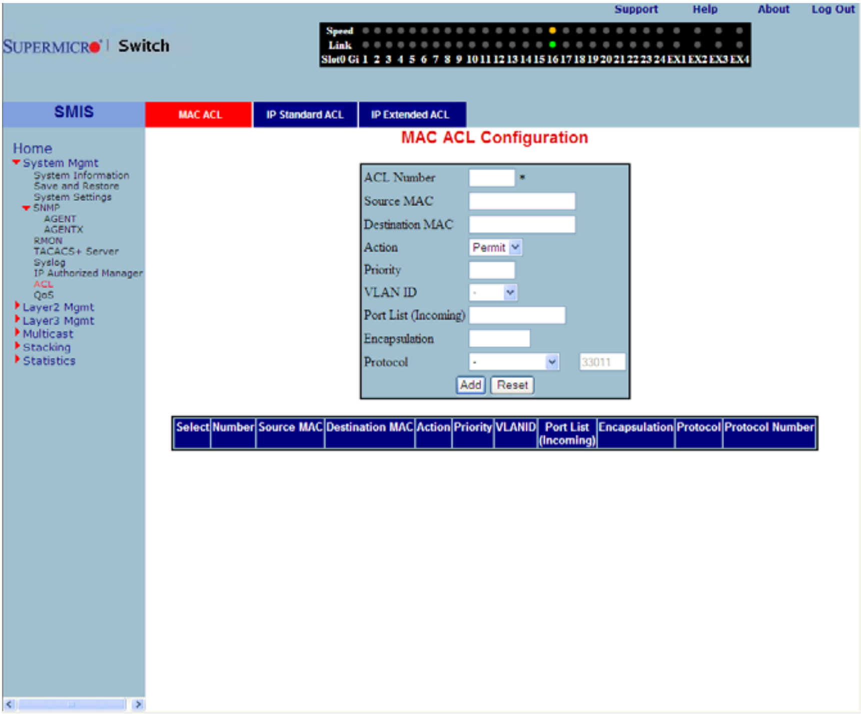
Clicking on the ACL link allows you to configure the Access Control List for the switch. The following control tabs can be accessed through this link:

- MAC ACL
- IP Standard ACL
- IP Extended ACL

By default, the MAC ACL tab is loaded.

MAC ACL

Figure 7-29. MAC ACL Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
MAC ACL
IP Standard ACL
IP Extended ACL
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset

MAC ACL Configuration

ACL Number	*
Source MAC	
Destination MAC	
Action	Permit
Priority	
VLAN ID	-
Port List (Incoming)	
Encapsulation	
Protocol	- 33011

Select	Number	Source MAC	Destination MAC	Action	Priority	VLANID	Port List (Incoming)	Encapsulation	Protocol	Protocol Number

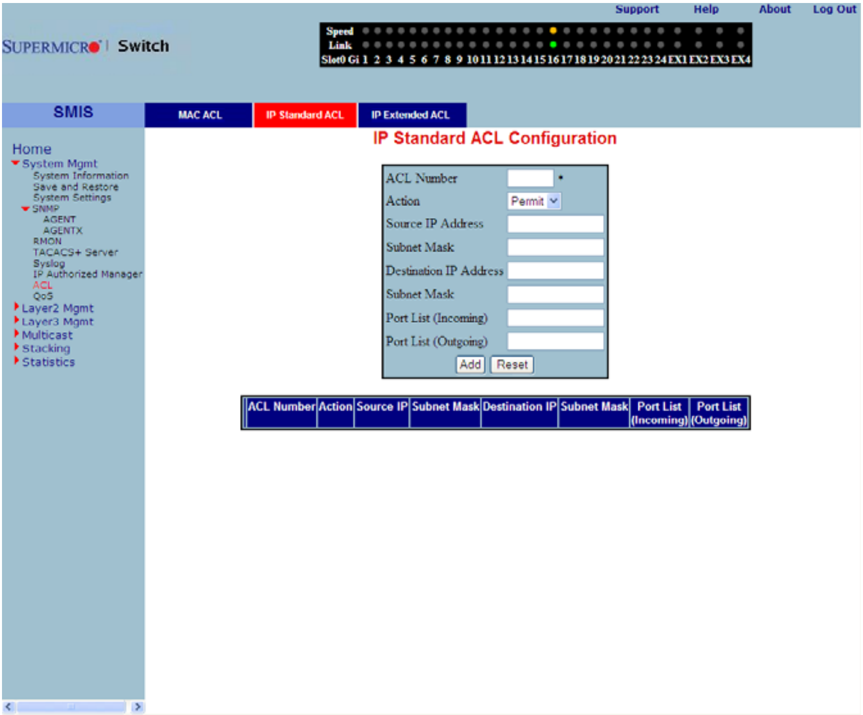
Clicking on the MAC ACL tab brings up the MAC ACL CONFIGURATION page (Figure 7-29). This page displays the various parameters to configure the MAC Access List. Table 7-21 lists the parameters found on this page.

Table 7-21. MAC ACL Configuration Page Parameters

Parameter	Description
ACL Number	Specifies the unique Id for the access list.
Source and Destination MAC	Specifies the Source MAC Address and Destination MAC Address for which the access list must be applied. Both the source and destination MAC addresses must be configured for the status of the access list to be Active.
Action	Specifies the action to be taken for the access list.
Priority	Specifies the priority for the access list.
VLAN ID	Specifies the VLAN ID for which the access list has to be applied.
Port List (Incoming)	Specifies the Port List for which the access list has to be applied.
Encapsulation	Specifies the Encapsulation type of the packet for which the access list has to be applied.
Protocol	Specifies the non-IP protocol type of the packet for which the access list has to be applied.

IP Standard ACL

Figure 7-30. IP Standard ACL Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
MAC ACL
IP Standard ACL
IP Extended ACL
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset

IP Standard ACL Configuration

ACL Number *
Action Permit
Source IP Address
Subnet Mask
Destination IP Address
Subnet Mask
Port List (Incoming)
Port List (Outgoing)

ACL Number	Action	Source IP	Subnet Mask	Destination IP	Subnet Mask	Port List (Incoming)	Port List (Outgoing)

Clicking on the IP STANDARD ACL tab brings up the IP STANDARD ACL CONFIGURATION page (Figure 7-30). This page displays the various parameters to configure the Standard IP access lists. Table 7-22 lists the parameters found on this page.

Table 7-22. IP Standard ACL Configuration Page Parameters

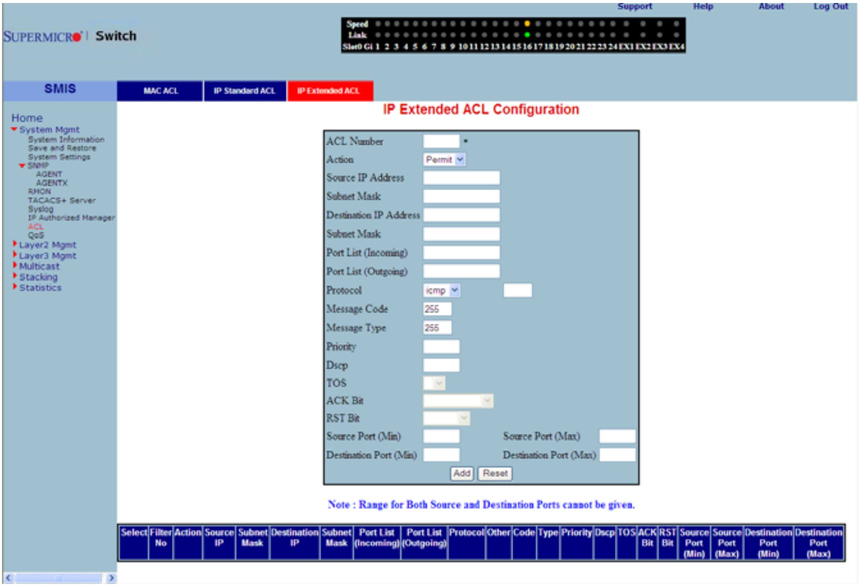
Parameter	Description
ACL Number	Specifies the unique ID for the access list. This value must be in the range from **1** to **1000**.
Action	Specifies whether the packets must be allowed or dropped when a match has been found.
Source and Destination IP Address	Specifies the IP Address of the Source and Destination for which the access list must be applied.
Subnet Mask	Specifies the Source and Destination Address Mask corresponding to the IP Address.

Table 7-22. IP Standard ACL Configuration Page Parameters (Continued)

Parameter	Description
Ports List (Incoming)	Specifies the Incoming Port List for which the access lists has to be applied.
Ports List (Outgoing)	Specifies the Outgoing Port List for which the access lists has to be applied.

IP Extended ACL

Figure 7-31. IP Extended ACL Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
MAC ACL
IP Standard ACL
IP Extended ACL
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset

IP Extended ACL Configuration

ACL Number *
Action: Permit
Source IP Address
Subnet Mask
Destination IP Address
Subnet Mask
Port List (Incoming)
Port List (Outgoing)
Protocol: icmp
Message Code: 255
Message Type: 255
Priority
Dscp
TOS
ACK Bit
RST Bit
Source Port (Min) Source Port (Max)
Destination Port (Min) Destination Port (Max)

Note : Range for Both Source and Destination Ports cannot be given.

Select	Filter No	Action	Source IP	Subnet Mask	Destination IP	Subnet Mask	Port List (Incoming)	Port List (Outgoing)	Protocol	Other	Code	Type	Priority	Dscp	TOS	ACK Bit	RST Bit	Source Port (Min)	Source Port (Max)	Destination Port (Min)	Destination Port (Max)

Clicking on the IP EXTENDED ACL tab brings up the IP EXTENDED ACL CONFIGURATION page (Figure 7-31). This page displays the various parameters required to configure the Extended IP access lists. Table 7-23 lists the parameters found on this page.

Table 7-23. IP Extended ACL Configuration Page Parameters

Parameter	Description
ACL Number	Specifies the unique ID for the access list. This value must be in the range from **1001** to **65535**.
Action	Specifies whether the packets must be allowed or dropped when a match has been found.
Source and Destination IP Address	Specifies the IP Address for which the access list must be applied.
Subnet Mask	Specifies the Address Mask corresponding to the IP Address.

Table 7-23. IP Extended ACL Configuration Page Parameters (Continued)

Parameter	Description
Ports List (Incoming)	Specifies the Incoming Port List for which the filter has to be applied.
Ports List (Outgoing)	Specifies the Outgoing Port List for which the filter has to be applied.
Protocol	Specifies the type of protocol.
Message Code	Specifies the Message Code to be checked for ICMP Packets. (This is enabled only if ICMP is chosen.)
Message Type	Specifies the Message Type to be checked for ICMP Packets. (This is enabled only if ICMP is chosen.)
Priority	Specifies the Priority for the filter.
TOS	Specifies the Type of Service for the access list.
ACK Bit	Indicates the TCP Ack Bit to be checked against the incoming packet. (This is enabled only if TCP is chosen.)
RST Bit	Indicates the TCP Reset Bit to be checked against the incoming packet. (This is enabled only if TCP is chosen.)
Source Port (Min)	Specifies the TCP/UDP source port from which the access list has to be applied.
Source Port (Max)	Specifies the TCP/UDP source ports to which the access list has to be applied.
Destination Port (Min)	Specifies the TCP/UDP destination port from which the access list has to be applied.
Destination Port (Max)	Specifies the TCP/UDP destination port to which the access list has to be applied.

QoS

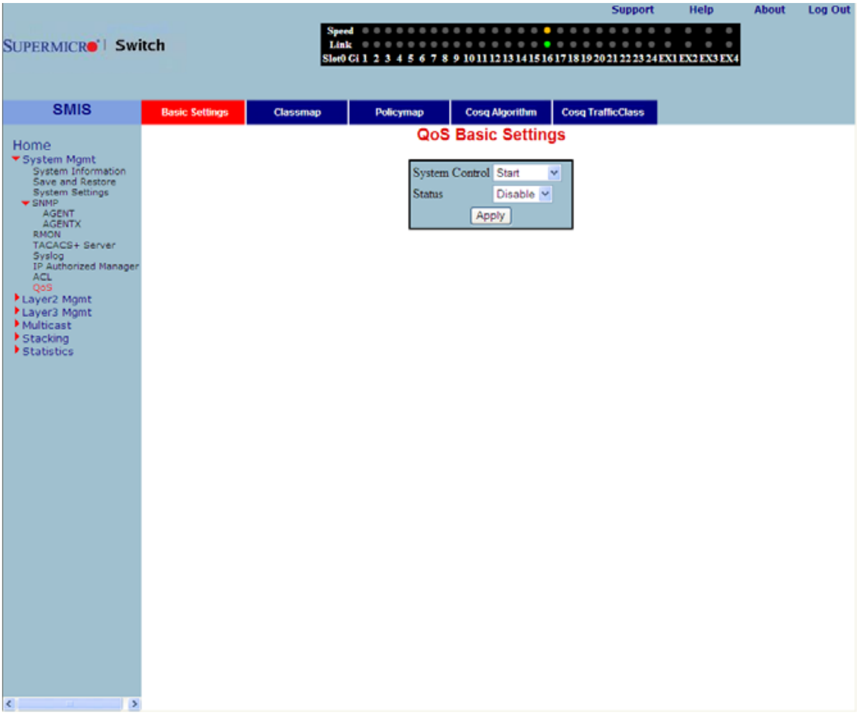
Clicking on the QoS link of the System page allows you to configure QoS through following control tabs:

- Basic Settings
- Classmap
- Policymap
- COSQ Algorithm
- Cosq Traffic Class

By default, the Basic Settings tab is loaded.

Basic Settings

Figure 7-32. QoS Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Classmap
Policymap
Cosq Algorithm
Cosq TrafficClass
QoS Basic Settings
Home
System Mgmt
System Information
Save and Restore
System Settings
SNMP
AGENT
AGENTX
RMON
TACACS+ Server
Syslog
IP Authorized Manager
ACL
QoS
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

System Control: Start

Status: Disable

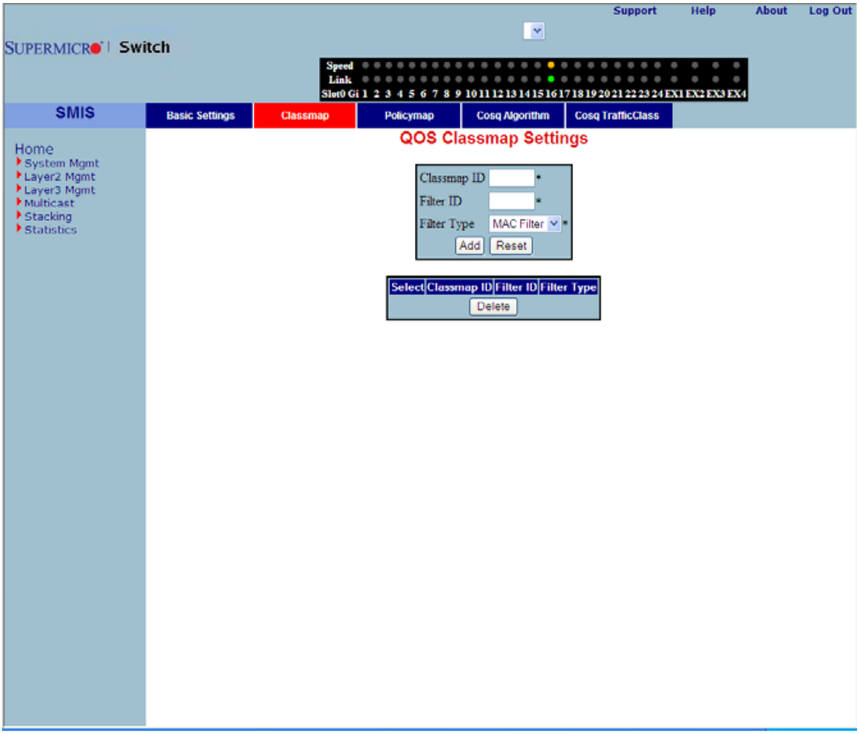
Clicking on the Basic Settings tab brings up the QoS Basic Settings page (Figure 7-32). Table 7-24 lists the parameters found on this page.

Table 7-24. QoS Basic Settings Page Parameters

Parameter	Description
System Control	System Control can **Start** or **Shutdown** QoS.
Status	Allows you to **Enable**/**Disable** QoS status.

Classmap

Figure 7-33. QoS Classmap Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Classmap
Policymap
Cosq Algorithm
Cosq TrafficClass
QOS Classmap Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Classmap ID *
Filter ID *
Filter Type MAC Filter *
Add
Reset
Select
Classmap ID
Filter ID
Filter Type
Delete

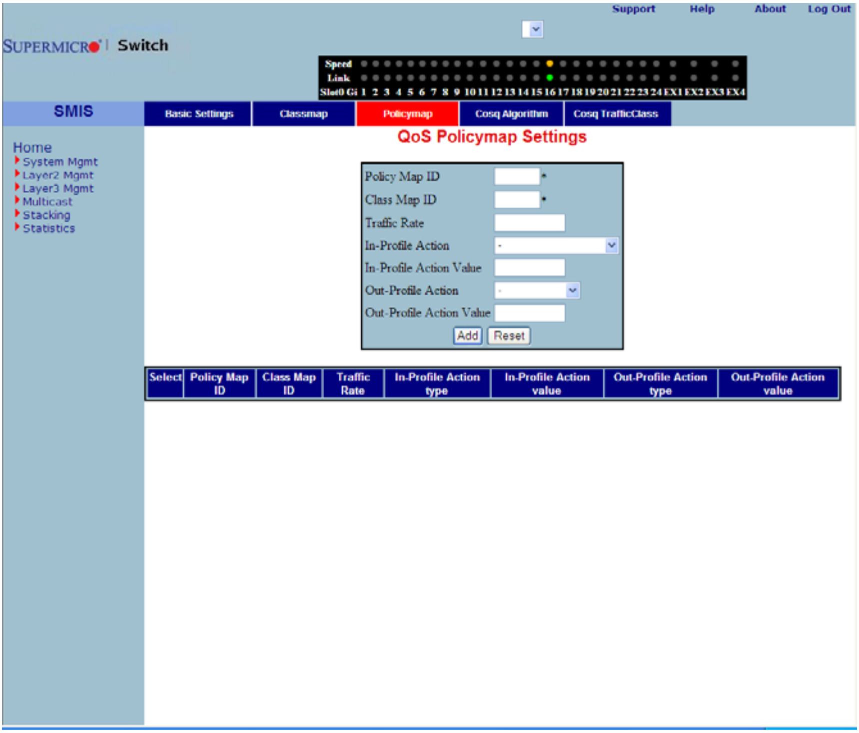
Clicking on the CLASSMAP tab brings up the QOS CLASSMAP SETTINGS page (Figure 7-33). Classmap is used to classify the stream of traffic. Table 7-25 lists the parameters found on this page.

Table 7-25. QoS Classmap Settings Page Parameters

Parameter	**Description**
Classmap ID	Specifies a unique ID for Classmap. It must be in the range from **1** to **65535**.
Filter ID	Specifies the unique filter ID associated with this Classmap.
Filter Type	Specifies the filter type associated with the Classmap. It can be set as either **MAC Filter** (1) or **IP Filter** (2).

Policymap

Figure 7-34. QoS Policymap Settings Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Classmap
Policymap
Cosq Algorithm
Cosq TrafficClass
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
QoS Policymap Settings
Policy Map ID
Class Map ID
Traffic Rate
In-Profile Action
In-Profile Action Value
Out-Profile Action
Out-Profile Action Value
Add
Reset
Select
Policy Map ID
Class Map ID
Traffic Rate
In-Profile Action type
In-Profile Action value
Out-Profile Action type
Out-Profile Action value

Clicking on the POLICYMAP tab brings up the QOS POLICYMAP SETTINGS page (Figure 7-34). Policymap is used to specify action for a specified classmap. Table 7-26 lists the parameters found on this page.

Table 7-26. QoS Policymap Settings Page Parameters

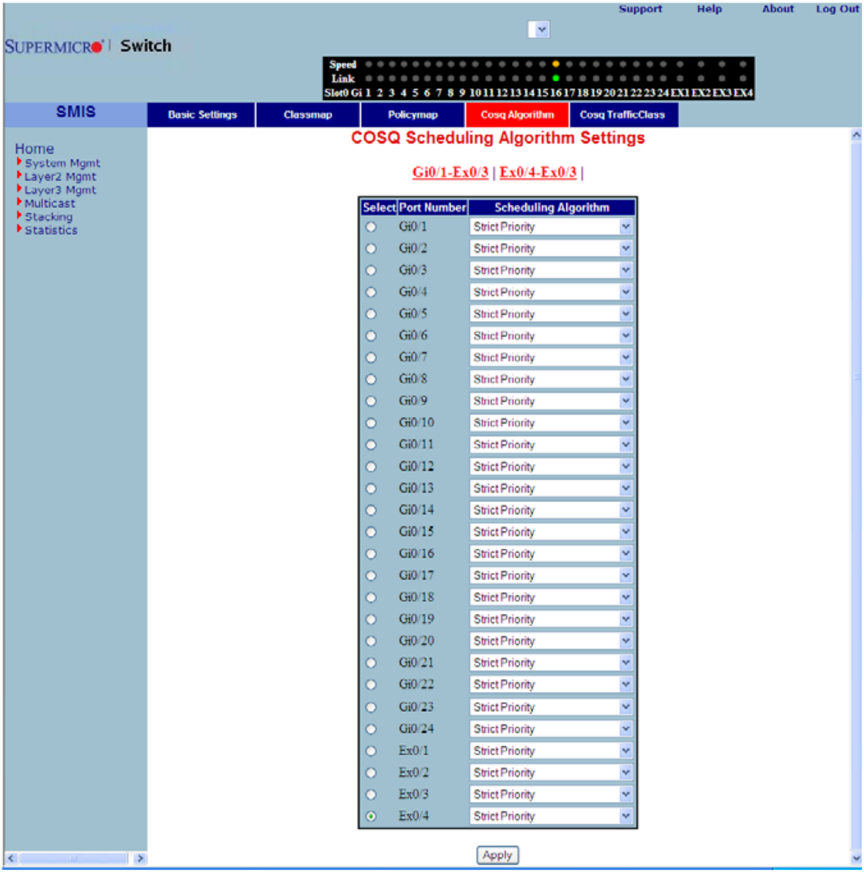
Parameter	**Description**
Policy Map ID	Specifies the unique ID for Policy Map. The value ranges between **1** and **65535**.
Class Map ID	Specifies the Class map Id to associate with Policy map.
Traffic Rate	Specifies the Traffic rate of data for which action has to be applied.
In-Profile Action	Specifies the action to be applied on matched data. In-Profile Action can be specified as either **Policy DSCP** or **Policy Precedence**.
Out-Profile Action	Specifies the action to be applied on out profile data. Out-Profile Action can be specified as **Policy DSCP** or **Drop**.

Table 7-26. QoS Policymap Settings Page Parameters (Continued)

Parameter	Description
In-Profile Action Value	In Profile Action Value can be specified from **0** to **7** for DSCP or from **0** to **63** for IP Precedence.
Out-Profile Action Value	Out-Profile Action Value can be specified as **Drop** or from **0** to **63** for DSCP.

COSQ Algorithm

Figure 7-35. COSQ Scheduling Algorithm Settings Page


Support
Help
About
Log Out
SUPERMICR Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Classmap
Policymap
Cosq Algorithm
Cosq TrafficClass
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics

COSQ Scheduling Algorithm Settings

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port Number	Scheduling Algorithm
○	Gi0/1	Strict Priority
○	Gi0/2	Strict Priority
○	Gi0/3	Strict Priority
○	Gi0/4	Strict Priority
○	Gi0/5	Strict Priority
○	Gi0/6	Strict Priority
○	Gi0/7	Strict Priority
○	Gi0/8	Strict Priority
○	Gi0/9	Strict Priority
○	Gi0/10	Strict Priority
○	Gi0/11	Strict Priority
○	Gi0/12	Strict Priority
○	Gi0/13	Strict Priority
○	Gi0/14	Strict Priority
○	Gi0/15	Strict Priority
○	Gi0/16	Strict Priority
○	Gi0/17	Strict Priority
○	Gi0/18	Strict Priority
○	Gi0/19	Strict Priority
○	Gi0/20	Strict Priority
○	Gi0/21	Strict Priority
○	Gi0/22	Strict Priority
○	Gi0/23	Strict Priority
○	Gi0/24	Strict Priority
○	Ex0/1	Strict Priority
○	Ex0/2	Strict Priority
○	Ex0/3	Strict Priority
●	Ex0/4	Strict Priority

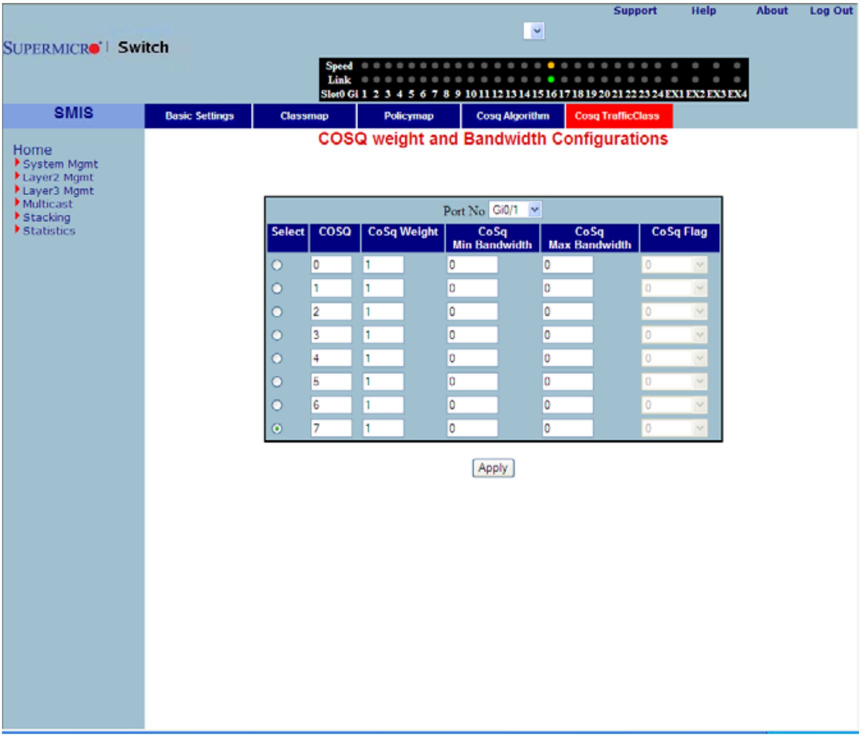
Clicking on the COSQ ALGORITHM tab brings up the COSQ SCHEDULING ALGORITHM SETTINGS page (Figure 7-35). Table 7-27 lists the parameters found on this page.

Table 7-27. COSQ Scheduling Algorithm Settings Page Parameters

Parameter	Description
Port Number	Specifies the port number.
Scheduling Algorithm	Specifies the sceduling algorithm.

Cosq Traffic Class

Figure 7-36. COSQ Weight and Bandwidth Configurations Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Classmap
Policymap
Cosq Algorithm
Cosq TrafficClass
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

COSQ weight and Bandwidth Configurations

Port No Gi0/1

Select	COSQ	CoSq Weight	CoSq Min Bandwidth	CoSq Max Bandwidth	CoSq Flag
○	0	1	0	0	0
○	1	1	0	0	0
○	2	1	0	0	0
○	3	1	0	0	0
○	4	1	0	0	0
○	5	1	0	0	0
○	6	1	0	0	0
●	7	1	0	0	0

Clicking on the COSQ TRAFFICCLASS tab brings up the COSQ WEIGHT AND BANDWIDTH CONFIGURATIONS page (Figure 7-36). Table 7-28 lists the parameters found on this page.

Table 7-28. COSQ Weight and Bandwidth Configurations Page Parameters

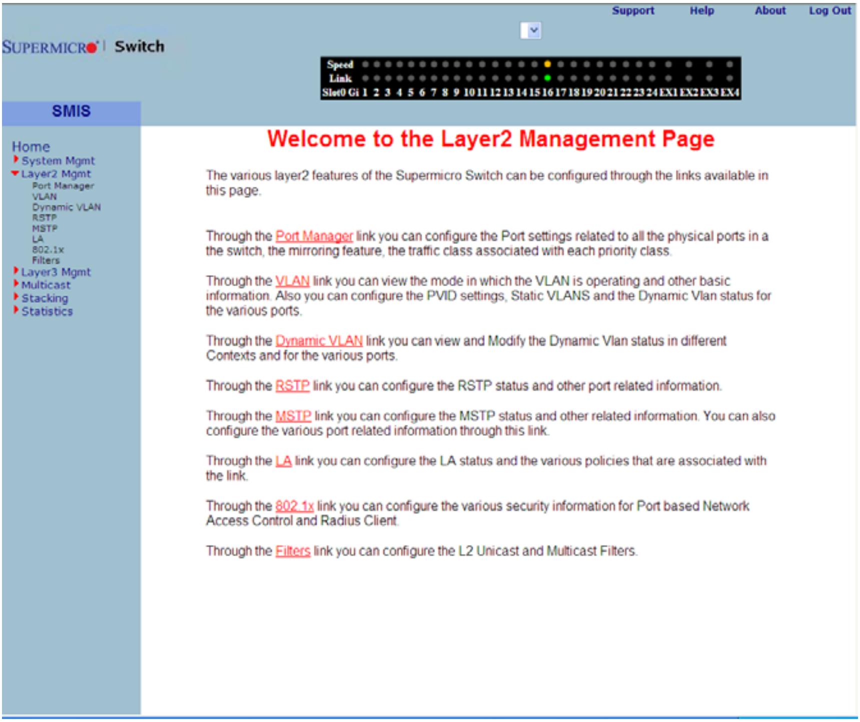
Parameter	Description
COSQ	Specifies the COSQ algorithm.
COSQ Weight	Specifies the COSQ algorithm weight.

Table 7-28. COSQ Weight and Bandwidth Configurations Page Parameters

Parameter	Description
COSQ Min Bandwidth	Specifies the COSQ algorithm minimum bandwidth.
COSQ Max Bandwidth	Specifies the COSQ algorithm maximum bandwidth.
COSQ Flag	Specifies teh COSQ algorithm flag.

7-5 Layer2 Management Page

Figure 7-37. Layer2 Management Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics

Welcome to the Layer2 Management Page

The various layer2 features of the Supermicro Switch can be configured through the links available in this page.

Through the Port Manager link you can configure the Port settings related to all the physical ports in a the switch, the mirroring feature, the traffic class associated with each priority class.

Through the VLAN link you can view the mode in which the VLAN is operating and other basic information. Also you can configure the PVID settings, Static VLANS and the Dynamic Vlan status for the various ports.

Through the Dynamic VLAN link you can view and Modify the Dynamic Vlan status in different Contexts and for the various ports.

Through the RSTP link you can configure the RSTP status and other port related information.

Through the MSTP link you can configure the MSTP status and other related information. You can also configure the various port related information through this link.

Through the LA link you can configure the LA status and the various policies that are associated with the link.

Through the 802.1x link you can configure the various security information for Port based Network Access Control and Radius Client.

Through the Filters link you can configure the L2 Unicast and Multicast Filters.

The LAYER2 MANAGEMENT link on the left pane opens the LAYER2 MANAGEMENT Page. The management of all Layer2 protocols/modules is categorized under this group. This is further classified into the following sub-groups based on functionalities or protocols:

- Port Manager
- VLAN
- Dynamic VLAN
- RSTP
- MSTP

- LA
- 802.1x
- Filters

Port Manager

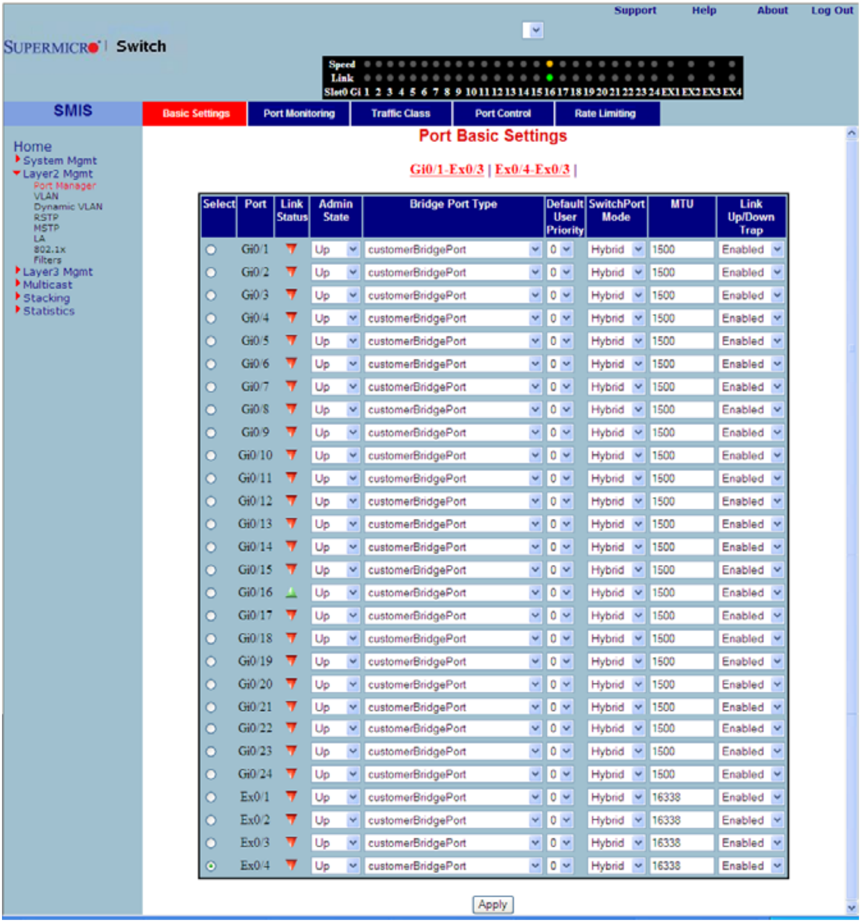
The PORT MANAGER link has access to the following control tabs:

- Basic Settings
- Port Monitoring
- Traffic Class
- Port Control
- Rate Limiting

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-38. Port Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Monitoring
Traffic Class
Port Control
Rate Limiting
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Port Basic Settings

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port	Link Status	Admin State	Bridge Port Type	Default User Priority	SwitchPort Mode	MTU	Link Up/Down Trap
○	Gi0/1	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/2	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/3	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/4	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/5	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/6	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/7	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/8	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/9	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/10	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/11	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/12	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/13	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/14	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/15	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/16	▲	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/17	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/18	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/19	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/20	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/21	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/22	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/23	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Gi0/24	▼	Up	customerBridgePort	0	Hybrid	1500	Enabled
○	Ex0/1	▼	Up	customerBridgePort	0	Hybrid	16338	Enabled
○	Ex0/2	▼	Up	customerBridgePort	0	Hybrid	16338	Enabled
○	Ex0/3	▼	Up	customerBridgePort	0	Hybrid	16338	Enabled
●	Ex0/4	▼	Up	customerBridgePort	0	Hybrid	16338	Enabled

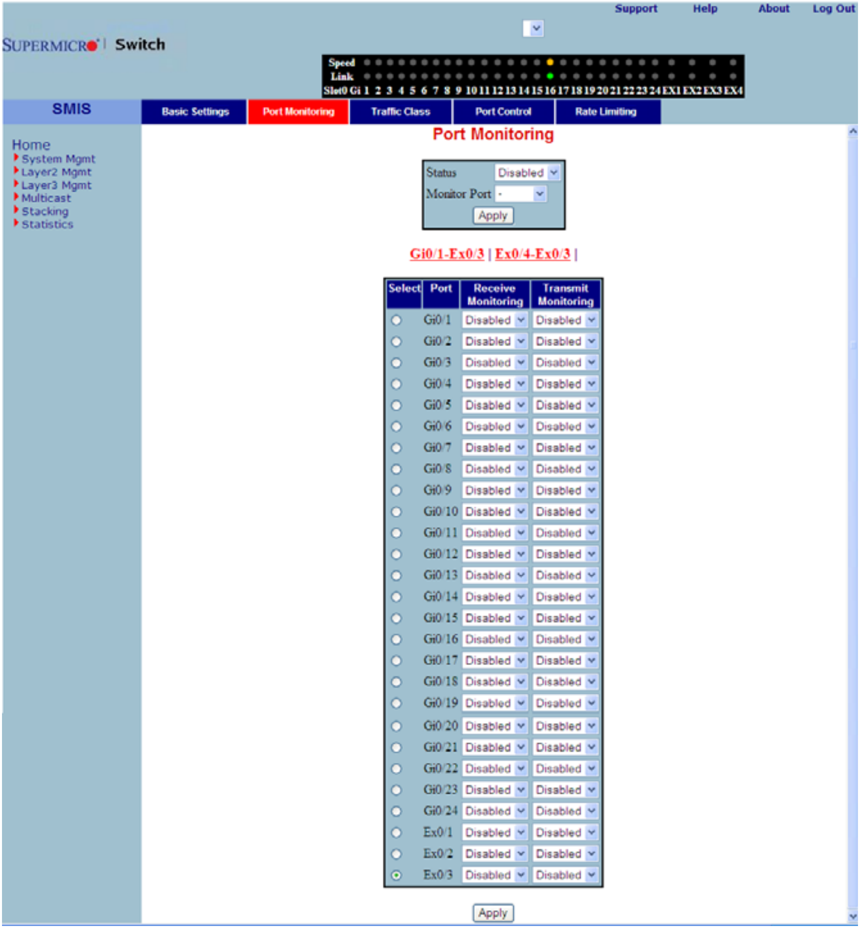
Clicking on the BASIC SETTINGS tab brings up the PORT BASIC SETTINGS page (Figure 7-38), which displays the general information related to all the physical ports in a switch. It displays the LINK STATUS, ADMIN STATE (Up/Down), BRIDGE PORT TYPE, DEFAULT USER PRIORITY, SWITCH PORT MODE, MTU and the LINK UP/DOWN TRAP status for this port.

A green arrow indicates that the admin status of the port is up, whereas a red arrow indicates that the admin status of the port is down.

You can change any of the parameters mentioned in this page at any time.

Port Monitoring

Figure 7-39. Port Monitoring Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Monitoring
Traffic Class
Port Control
Rate Limiting
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Port Monitoring
Apply
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Status: Disabled

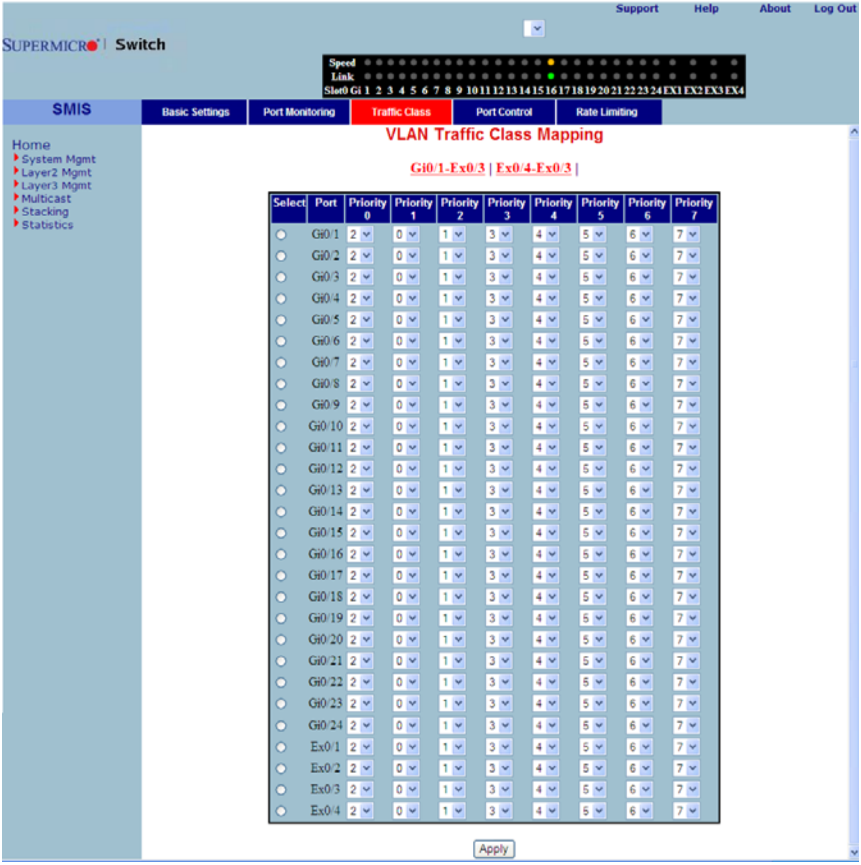
Monitor Port: -

Select	Port	Receive Monitoring	Transmit Monitoring
○	Gi0/1	Disabled	Disabled
○	Gi0/2	Disabled	Disabled
○	Gi0/3	Disabled	Disabled
○	Gi0/4	Disabled	Disabled
○	Gi0/5	Disabled	Disabled
○	Gi0/6	Disabled	Disabled
○	Gi0/7	Disabled	Disabled
○	Gi0/8	Disabled	Disabled
○	Gi0/9	Disabled	Disabled
○	Gi0/10	Disabled	Disabled
○	Gi0/11	Disabled	Disabled
○	Gi0/12	Disabled	Disabled
○	Gi0/13	Disabled	Disabled
○	Gi0/14	Disabled	Disabled
○	Gi0/15	Disabled	Disabled
○	Gi0/16	Disabled	Disabled
○	Gi0/17	Disabled	Disabled
○	Gi0/18	Disabled	Disabled
○	Gi0/19	Disabled	Disabled
○	Gi0/20	Disabled	Disabled
○	Gi0/21	Disabled	Disabled
○	Gi0/22	Disabled	Disabled
○	Gi0/23	Disabled	Disabled
○	Gi0/24	Disabled	Disabled
○	Ex0/1	Disabled	Disabled
○	Ex0/2	Disabled	Disabled
●	Ex0/3	Disabled	Disabled

Clicking on the PORT MONITORING tab brings up the PORT MONITORING page (Figure 7-39). The Port Monitoring feature can be enabled or disabled at every port level. You can also specify the packet direction (Receive/Transmit) that needs to be monitored for every port.

Traffic Class

Figure 7-40. VLAN Traffic Class Mapping Page

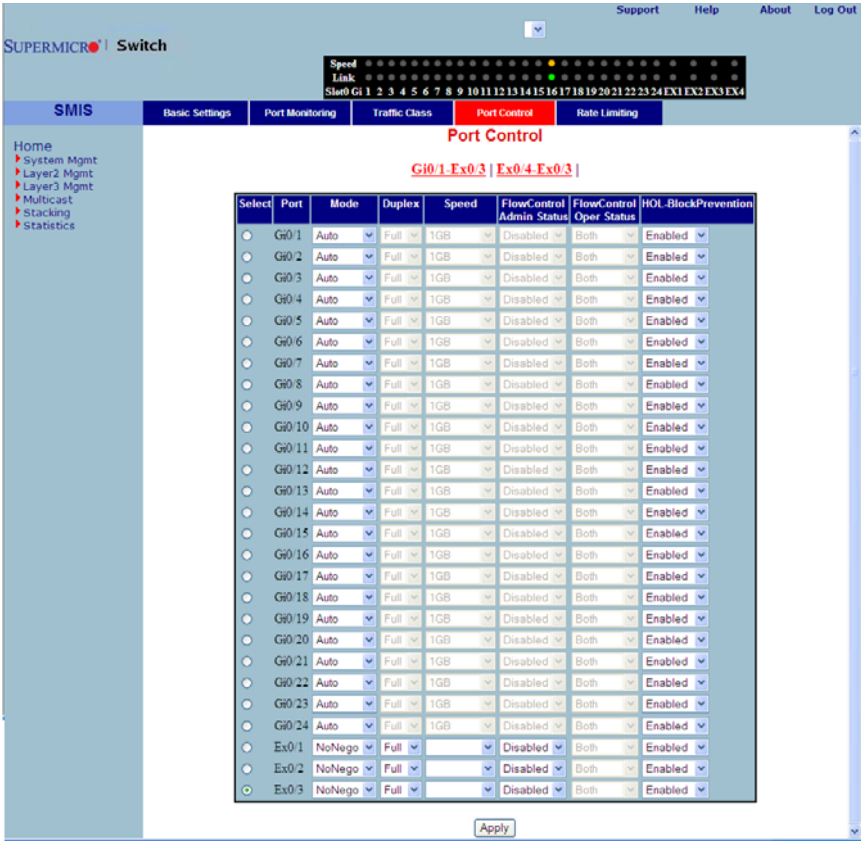

Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Monitoring
Traffic Class
Port Control
Rate Limiting
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
VLAN Traffic Class Mapping
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Select	Port	Priority 0	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7
○	Gi0/1	2	0	1	3	4	5	6	7
○	Gi0/2	2	0	1	3	4	5	6	7
○	Gi0/3	2	0	1	3	4	5	6	7
○	Gi0/4	2	0	1	3	4	5	6	7
○	Gi0/5	2	0	1	3	4	5	6	7
○	Gi0/6	2	0	1	3	4	5	6	7
○	Gi0/7	2	0	1	3	4	5	6	7
○	Gi0/8	2	0	1	3	4	5	6	7
○	Gi0/9	2	0	1	3	4	5	6	7
○	Gi0/10	2	0	1	3	4	5	6	7
○	Gi0/11	2	0	1	3	4	5	6	7
○	Gi0/12	2	0	1	3	4	5	6	7
○	Gi0/13	2	0	1	3	4	5	6	7
○	Gi0/14	2	0	1	3	4	5	6	7
○	Gi0/15	2	0	1	3	4	5	6	7
○	Gi0/16	2	0	1	3	4	5	6	7
○	Gi0/17	2	0	1	3	4	5	6	7
○	Gi0/18	2	0	1	3	4	5	6	7
○	Gi0/19	2	0	1	3	4	5	6	7
○	Gi0/20	2	0	1	3	4	5	6	7
○	Gi0/21	2	0	1	3	4	5	6	7
○	Gi0/22	2	0	1	3	4	5	6	7
○	Gi0/23	2	0	1	3	4	5	6	7
○	Gi0/24	2	0	1	3	4	5	6	7
○	Ex0/1	2	0	1	3	4	5	6	7
○	Ex0/2	2	0	1	3	4	5	6	7
○	Ex0/3	2	0	1	3	4	5	6	7
○	Ex0/4	2	0	1	3	4	5	6	7

Clicking on the TRAFFIC CLASS tab brings up the VLAN TRAFFIC CLASS MAPPING page (Figure 7-40). This page allows you to configure the traffic classes associated with each priority class on all ports.

Port Control

Figure 7-41. Port Control Page

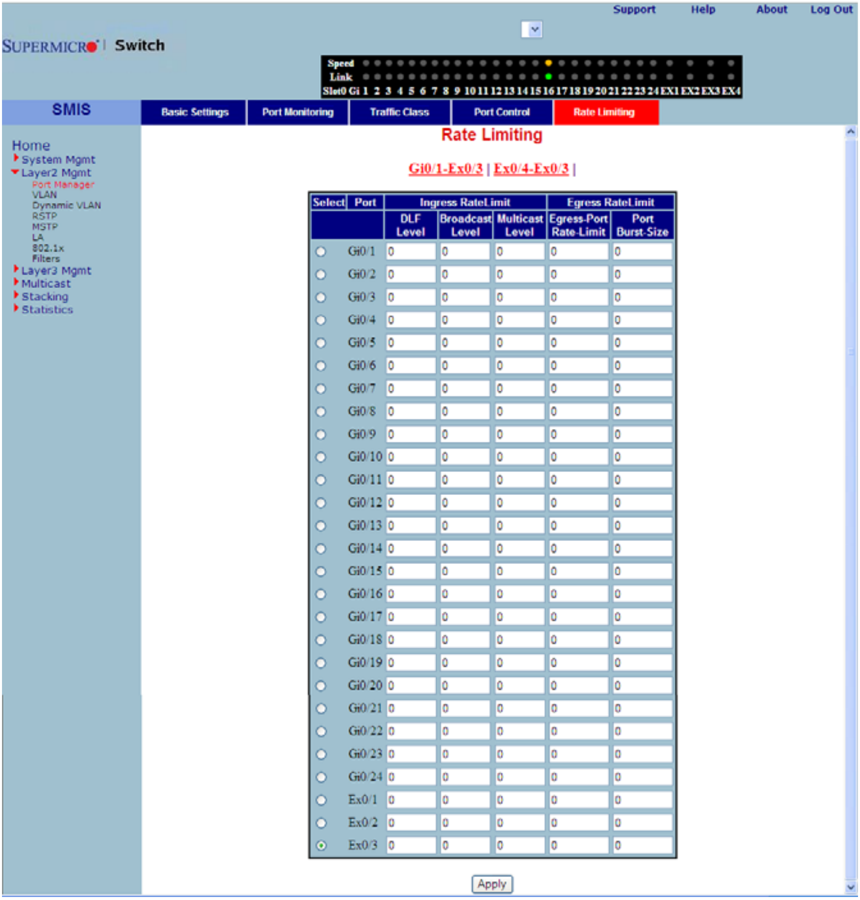

Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Monitoring
Traffic Class
Port Control
Rate Limiting
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Port Control
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Select	Port	Mode	Duplex	Speed	FlowControl Admin Status	FlowControl Oper Status	HOL-BlockPrevention
○	Gi0/1	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/2	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/3	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/4	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/5	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/6	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/7	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/8	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/9	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/10	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/11	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/12	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/13	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/14	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/15	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/16	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/17	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/18	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/19	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/20	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/21	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/22	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/23	Auto	Full	1GB	Disabled	Both	Enabled
○	Gi0/24	Auto	Full	1GB	Disabled	Both	Enabled
○	Ex0/1	NoNego	Full		Disabled	Both	Enabled
○	Ex0/2	NoNego	Full		Disabled	Both	Enabled
●	Ex0/3	NoNego	Full		Disabled	Both	Enabled

Clicking on the PORT CONTROL tab brings up the PORT CONTROL page (Figure 7-41). This page allows configuration of the port specific parameters of the device. You can choose between **Auto-negotiation** and **No-negotiation** for a port. If *No-negotiation* is chosen then the SPEED of the link, FLOWCONTROL - ADMIN and OPER status, DUPLEX modes and HOL BLOCK PREVENTION can be configured.

Rate Limiting

Figure 7-42. Rate Limiting Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Monitoring
Traffic Class
Port Control
Rate Limiting
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Rate Limiting
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Select	Port	Ingress RateLimit			Egress RateLimit	
		DLF Level	Broadcast Level	Multicast Level	Egress-Port Rate-Limit	Port Burst-Size
○	Gi0/1	0	0	0	0	0
○	Gi0/2	0	0	0	0	0
○	Gi0/3	0	0	0	0	0
○	Gi0/4	0	0	0	0	0
○	Gi0/5	0	0	0	0	0
○	Gi0/6	0	0	0	0	0
○	Gi0/7	0	0	0	0	0
○	Gi0/8	0	0	0	0	0
○	Gi0/9	0	0	0	0	0
○	Gi0/10	0	0	0	0	0
○	Gi0/11	0	0	0	0	0
○	Gi0/12	0	0	0	0	0
○	Gi0/13	0	0	0	0	0
○	Gi0/14	0	0	0	0	0
○	Gi0/15	0	0	0	0	0
○	Gi0/16	0	0	0	0	0
○	Gi0/17	0	0	0	0	0
○	Gi0/18	0	0	0	0	0
○	Gi0/19	0	0	0	0	0
○	Gi0/20	0	0	0	0	0
○	Gi0/21	0	0	0	0	0
○	Gi0/22	0	0	0	0	0
○	Gi0/23	0	0	0	0	0
○	Gi0/24	0	0	0	0	0
○	Ex0/1	0	0	0	0	0
○	Ex0/2	0	0	0	0	0
●	Ex0/3	0	0	0	0	0

Clicking on the Rate Limiting tab brings up the Rate Limiting page (Figure 7-42). This page allows you to configure the Rate Limit Level for the following type of packets on a per port basis:

- DLF (Destination Lookup Failure) Packets Level)
- Broadcast Level
- Multicast Level
- Egress Port Rate Limit
- Port Burst Size

VLAN

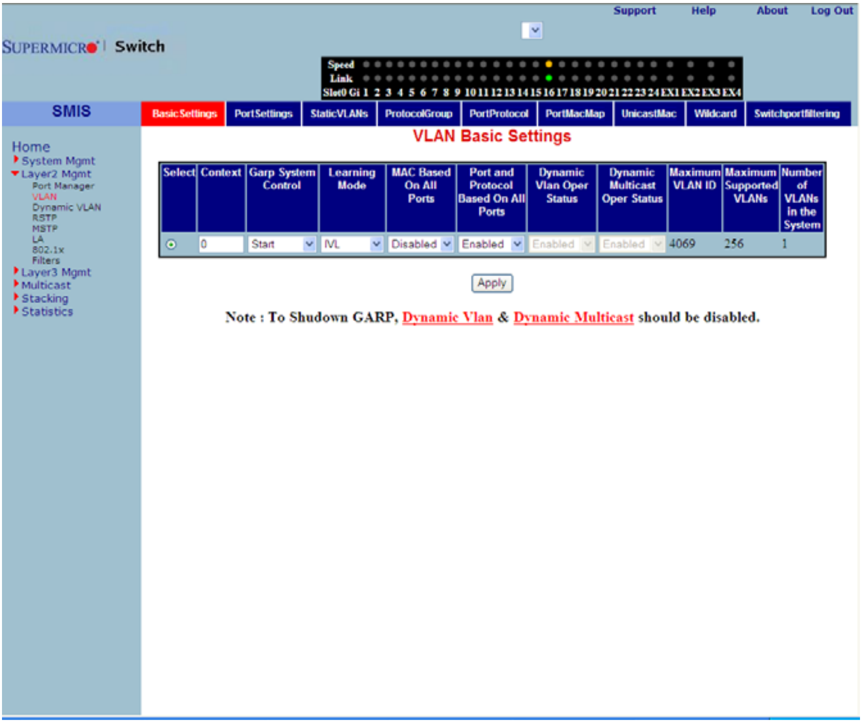
The VLAN link allows you to configure VLAN information. VLAN configuration information has been provided in the control tabs:

- Basic Settings
- Port Settings
- Static VLANs
- Protocol Group
- Port Protocol
- Port MAC Map
- UnicastMAC
- Wildcard
- Switch Port Filtering

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-43. VLAN Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMacMap
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

VLAN Basic Settings

Select	Context	Garp System Control	Learning Mode	MAC Based On All Ports	Port and Protocol Based On All Ports	Dynamic Vlan Oper Status	Dynamic Multicast Oper Status	Maximum VLAN ID	Maximum Supported VLANs	Number of VLANs in the System
●	0	Start	IVL	Disabled	Enabled	Enabled	Enabled	4069	256	1

Note : To Shudown GARP, Dynamic Vlan & Dynamic Multicast should be disabled.

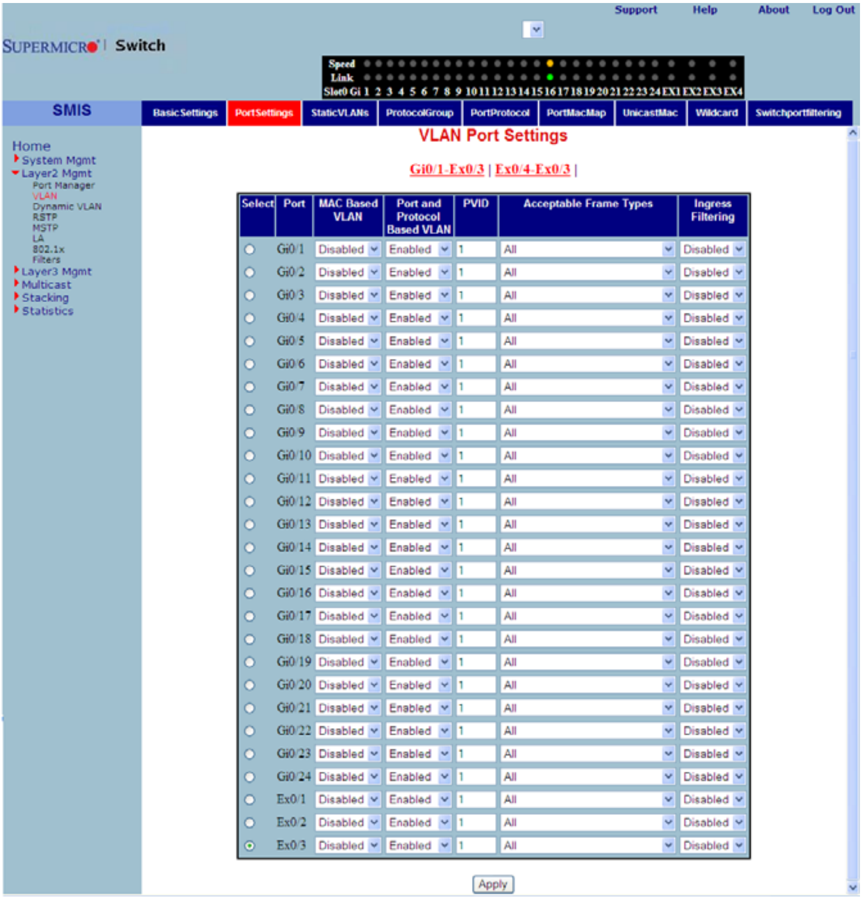
Clicking on the Basic Settings tab brings up the VLAN Basic Settings page (Figure 7-43). Table 7-29 lists the parameters found on this page.

Table 7-29. VLAN Basic Settings Page Parameters

Parameter	Description
Context	Specifies the Context ID.
GARP (Generic Attribute Registration Protocol) System Control	Starts or Shutsdown GARP in the switch.
Learning Mode	Specifies the Learning Mode (Independent, Shared, or Hybrid VLAN learning).
Maximum VLAN ID	Specifies the largest (4094) valid VLAN ID, which the switch can accept. Any number *greater* than 4094 will be discarded.
Maximum Supported VLANs	Specifies the maximum number of VLANs that this device can scale.
Number of VLANs in the System	Specifies the active number of VLANs configured in the device.
MAC Based on All Ports	Allows you to **Enable**/**Disable** Port MAC based classification.
Port and Protocol Based on All Ports	Allows you to **Enable**/**Disable** Port Protocol based classification.

Port Settings

Figure 7-44. VLAN Port Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMacMap
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics

VLAN Port Settings

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

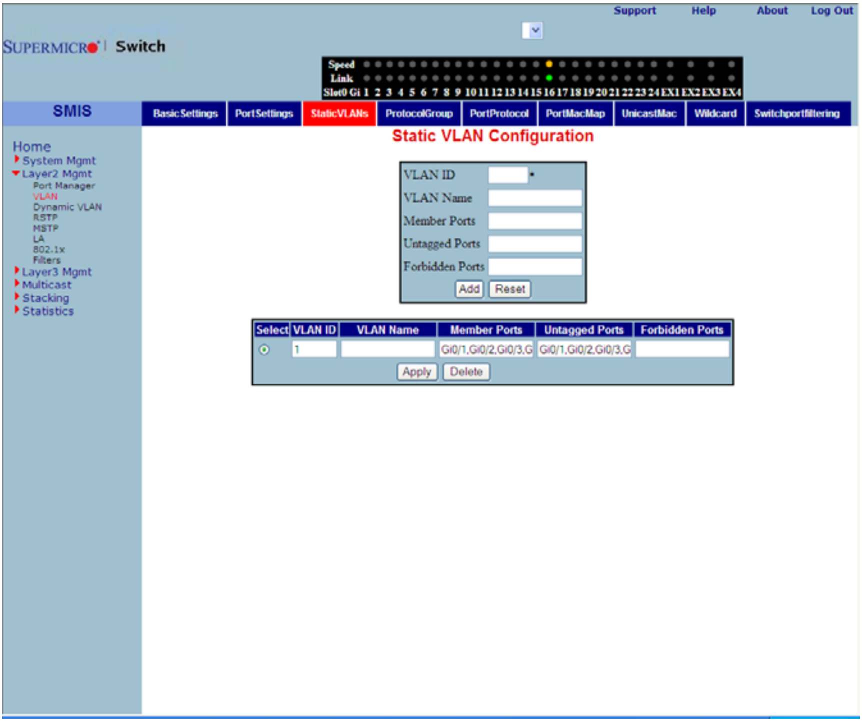
Select	Port	MAC Based VLAN	Port and Protocol Based VLAN	PVID	Acceptable Frame Types	Ingress Filtering
○	Gi0/1	Disabled	Enabled	1	All	Disabled
○	Gi0/2	Disabled	Enabled	1	All	Disabled
○	Gi0/3	Disabled	Enabled	1	All	Disabled
○	Gi0/4	Disabled	Enabled	1	All	Disabled
○	Gi0/5	Disabled	Enabled	1	All	Disabled
○	Gi0/6	Disabled	Enabled	1	All	Disabled
○	Gi0/7	Disabled	Enabled	1	All	Disabled
○	Gi0/8	Disabled	Enabled	1	All	Disabled
○	Gi0/9	Disabled	Enabled	1	All	Disabled
○	Gi0/10	Disabled	Enabled	1	All	Disabled
○	Gi0/11	Disabled	Enabled	1	All	Disabled
○	Gi0/12	Disabled	Enabled	1	All	Disabled
○	Gi0/13	Disabled	Enabled	1	All	Disabled
○	Gi0/14	Disabled	Enabled	1	All	Disabled
○	Gi0/15	Disabled	Enabled	1	All	Disabled
○	Gi0/16	Disabled	Enabled	1	All	Disabled
○	Gi0/17	Disabled	Enabled	1	All	Disabled
○	Gi0/18	Disabled	Enabled	1	All	Disabled
○	Gi0/19	Disabled	Enabled	1	All	Disabled
○	Gi0/20	Disabled	Enabled	1	All	Disabled
○	Gi0/21	Disabled	Enabled	1	All	Disabled
○	Gi0/22	Disabled	Enabled	1	All	Disabled
○	Gi0/23	Disabled	Enabled	1	All	Disabled
○	Gi0/24	Disabled	Enabled	1	All	Disabled
○	Ex0/1	Disabled	Enabled	1	All	Disabled
○	Ex0/2	Disabled	Enabled	1	All	Disabled
●	Ex0/3	Disabled	Enabled	1	All	Disabled

Clicking on the PORT SETTINGS tab brings up the VLAN PORT SETTINGS page (Figure 7-44), which is used to associate the VLAN ID to the port for Port based VLAN classification. While associating different ports to VLANs, you can also configure INGRESS FILTERING (at the port level) and FRAME TYPE (accept tagged frame alone or all frames).

The other configurations provided in this page are, Enabling/Disabling MAC BASED VLAN classification and PORT AND PROTOCOL BASED VLAN classification.

Static VLANs

Figure 7-45. Static VLAN Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Static VLANs
Protocol Group
Port Protocol
Port Mac Map
Unicast Mac
Wildcard
Switchport filtering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Static VLAN Configuration
Add
Reset
Apply
Delete

VLAN ID	*
VLAN Name	
Member Ports	
Untagged Ports	
Forbidden Ports	

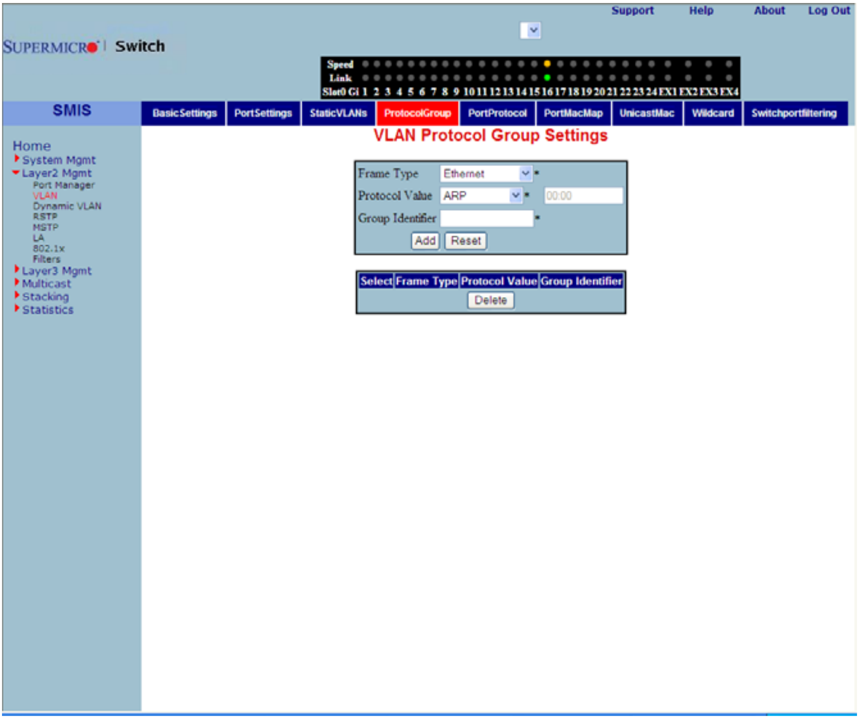
Select	VLAN ID	VLAN Name	Member Ports	Untagged Ports	Forbidden Ports
●	1		Gi0/1,Gi0/2,Gi0/3,G	Gi0/1,Gi0/2,Gi0/3,G	

Clicking on the STATIC VLANS tab brings up the STATIC VLAN CONFIGURATION page (Figure 7-45), which allows you to configure static VLAN related information.

Using the first table you will also be able to create new entries for un-created VLANs. VLAN ID is the mandatory field for configuring a VLAN. There is also a provision to enter VLAN NAME, MEMBER PORT, UNTAGGED PORT and the FORBIDDEN PORT for a VLAN. The second table displays the VLAN configurations saved in the switch.

Protocol Group

Figure 7-46. VLAN Protocol Group Settings Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMacMap
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset
Delete

VLAN Protocol Group Settings

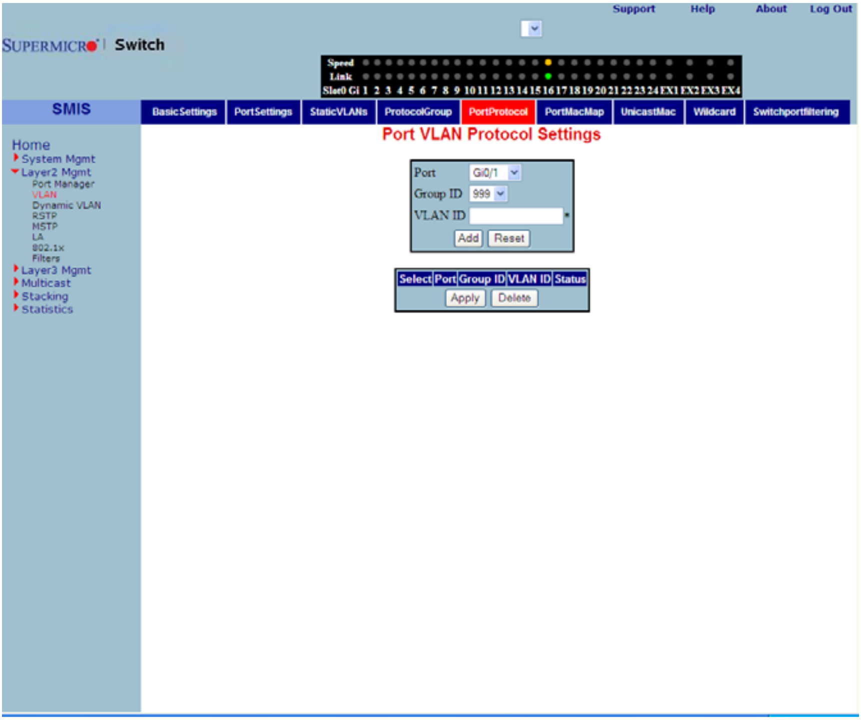
Frame Type: Ethernet *
Protocol Value: ARP * 00:00
Group Identifier: *

Select	Frame Type	Protocol Value	Group Identifier

Clicking on the PROTOCOLGROUP tab brings up the VLAN PROTOCOL GROUP SETTINGS page (Figure 7-46). This table is used to map the Protocol Templates to the Protocol Group Identifiers. The FRAME TYPE gives you the data-link encapsulation format. The PROTOCOL VALUE is the value of the protocol in a protocol template. The GROUP IDENTIFIER represents a group of protocols that are associated together.

Port Protocol

Figure 7-47. Port VLAN Protocol Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMacMap
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Port VLAN Protocol Settings
Add
Reset
Apply
Delete

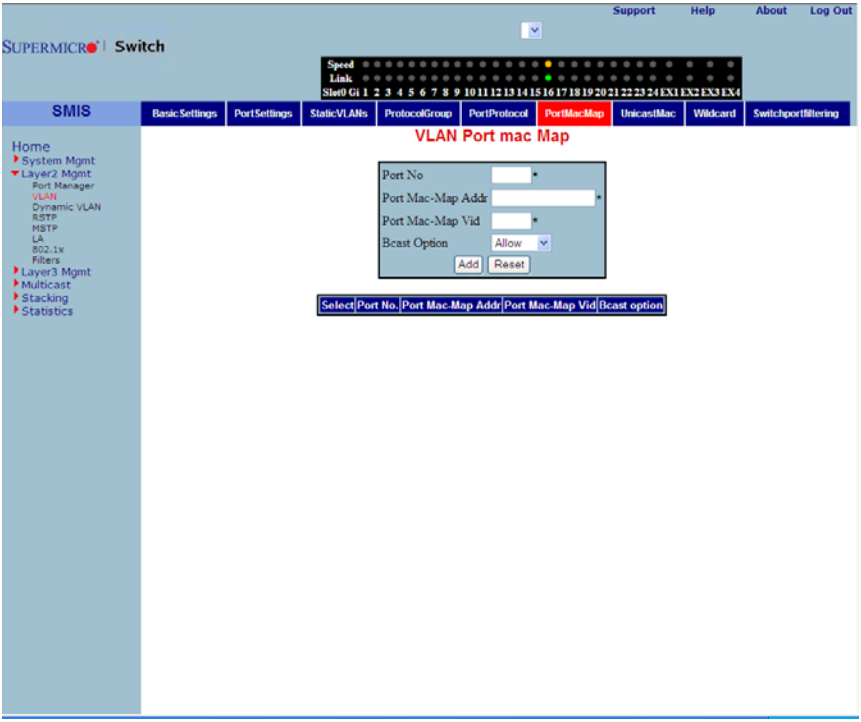
Port: Gi0/1
Group ID: 999
VLAN ID: *

Select	Port	Group ID	VLAN ID	Status

Clicking on the Port Protocol tab brings up the Port VLAN Protocol Settings page (Figure 7-47). This table is used for Port and Protocol based VLAN classification. The Group Identifier designates a group of protocols in the Protocol Group Database. The VLAN ID is the ID associated with a group of protocols for each port.

Port MAC Map

Figure 7-48. VLAN Port MAC Map Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Static VLANs
ProtocolGroup
PortProtocol
PortMacMap
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset

VLAN Port mac Map

Port No *

Port Mac-Map Addr *

Port Mac-Map Vid *

Bcast Option: Allow

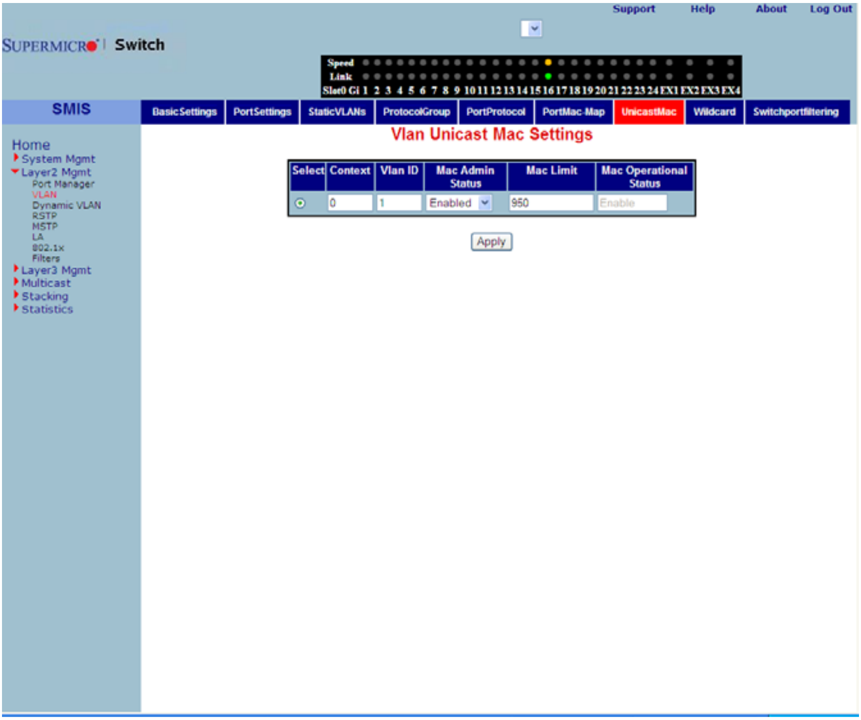
Select	Port No.	Port Mac-Map Addr	Port Mac-Map Vid	Bcast option

Clicking on the PORT MAC MAP tab brings up the VLAN PORT MAC MAP page (Figure 7-48). Table 7-30 lists the parameters found on this page.

Table 7-30. VLAN Port Mac Map Page Parameters

Parameter	Description
Port No	Specifies the Interface index.
Port Mac-Map Addr	Specifies the Port MAC-Map address.
Port Mac-Map Vid	Indicates the Port MAC-Map VLAN ID.
Bcast Option	Specifies the Broadcast option, which can be **Allowed** or **Discarded**.

UnicastMAC


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMac-Map
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Vlan Unicast Mac Settings

Select	Context	Vlan ID	Mac Admin Status	Mac Limit	Mac Operational Status
●	0	1	Enabled	950	Enable

Figure 7-49. VLAN Unicast MAC Settings Page

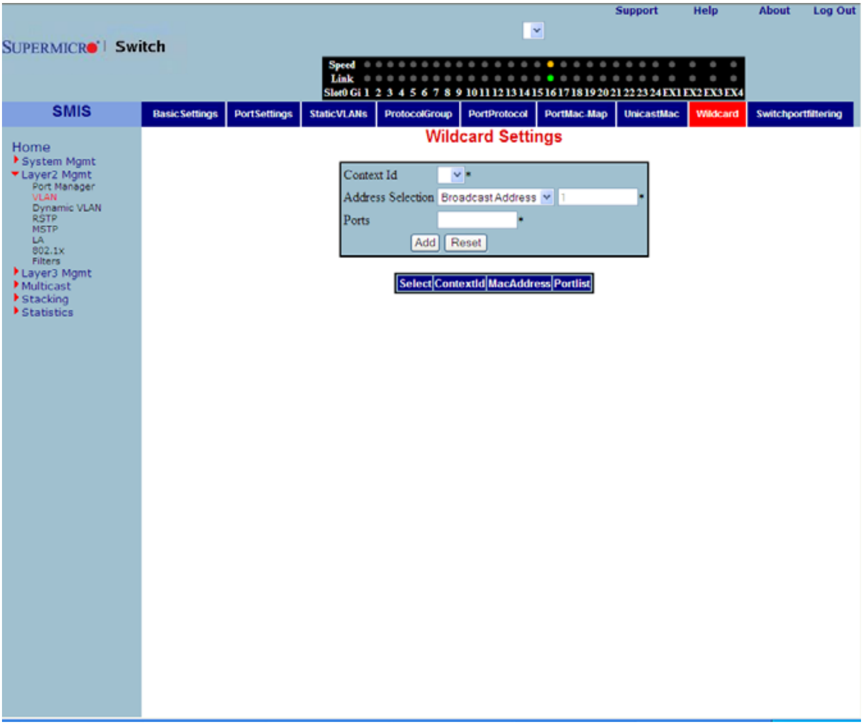
Clicking on the UNICAST MAC tab brings up the VLAN UNICAST MAC SETTINGS page (Figure 7-49). Table 7-31 lists the parameters found on this page.

Table 7-31. VLAN Unicast Mac Settings Page Parameters

Parameter	Description
Context	Specifies the context ID.
Vlan ID	Specifies the VLAN Identifier.
Mac Admin Status	Allows you to **Enable**/**Disable** the MAC administration status.
Mac Limit	Indicates the MAC limit.
Mac Operational Status	Specifies the MAC operational Status can be **Enabled** or **Disabled**.

Wildcard

Figure 7-50. Wildcard Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMac-Map
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Wildcard Settings
Add
Reset
Select
ContextId
MacAddress
Portlist

Context Id *
Address Selection: Broadcast Address 1 *
Ports *

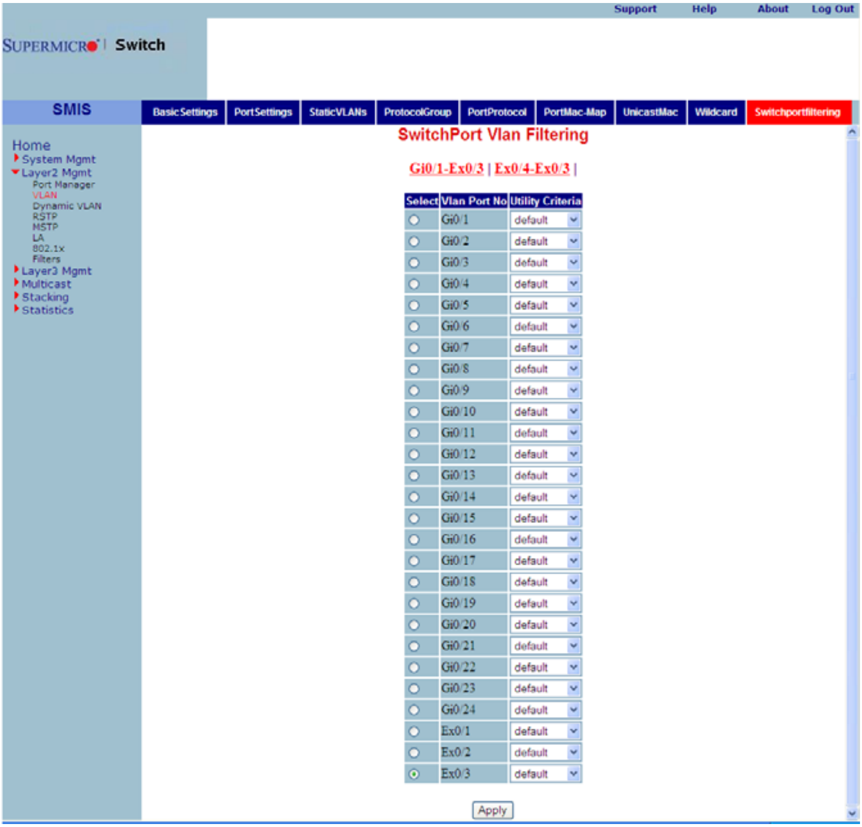
Clicking on the WILDCARD tab brings up the WILDCARD SETTINGS page (Figure 7-50). Table 7-32 lists the parameters found on this page.

Table 7-32. Wildcard Settings Page Parameters

Parameter	**Description**
Context ID	Specifies the context ID.
Address Selection	Specifies the MAC address and the address type (Broadcast, Unicast or Multicast).
Ports	Specifies the set of ports to which frames must be forwarded.

Switch Port Filtering

Figure 7-51. SwitchPort VLAN Filtering Page


Support
Help
About
Log Out
SUPERMICRO | Switch
SMIS
Basic Settings
PortSettings
StaticVLANs
ProtocolGroup
PortProtocol
PortMac-Map
UnicastMac
Wildcard
Switchportfiltering
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

SwitchPort Vlan Filtering

Select	Vlan Port No	Utility Criteria
○	Gi0/1	default
○	Gi0/2	default
○	Gi0/3	default
○	Gi0/4	default
○	Gi0/5	default
○	Gi0/6	default
○	Gi0/7	default
○	Gi0/8	default
○	Gi0/9	default
○	Gi0/10	default
○	Gi0/11	default
○	Gi0/12	default
○	Gi0/13	default
○	Gi0/14	default
○	Gi0/15	default
○	Gi0/16	default
○	Gi0/17	default
○	Gi0/18	default
○	Gi0/19	default
○	Gi0/20	default
○	Gi0/21	default
○	Gi0/22	default
○	Gi0/23	default
○	Gi0/24	default
○	Ex0/1	default
○	Ex0/2	default
●	Ex0/3	default

Clicking on the SWITCH PORT FILTERING tab brings up the SWITCHPORT VLAN FILTERING page (Figure 7-51). Table 7-33 lists the parameters found on this page.

Table 7-33. SwitchPort VLAN Filtering Page Parameters

Parameter	**Description**
VLAN Port No	Specifies the VLAN port number.
Utility Criteria	Specifies the utility criteria of the port, where the utility criteria can be **Default** or **Enhanced**.

Dynamic VLAN

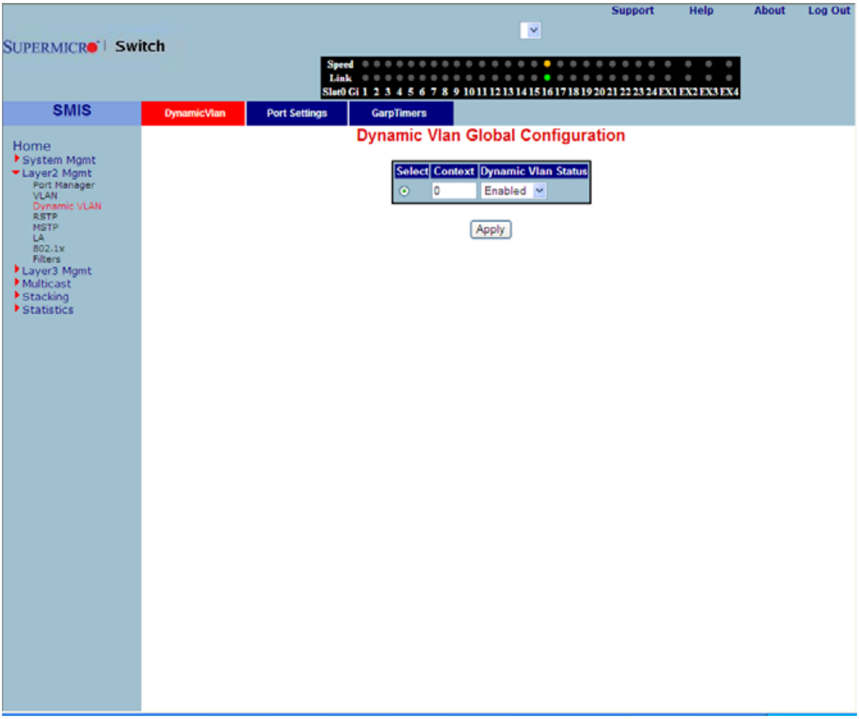
The DYNAMIC VLAN link allows you to configure the Dynamic VLAN information through the following control tabs:

- Dynamic VLAN
- Port Settings
- Garp Timers

By default, the DYNAMIC VLAN tab is loaded.

Dynamic VLAN

Figure 7-52. Dynamic VLAN Global Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
DynamicVlan
Port Settings
GarpTimers
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

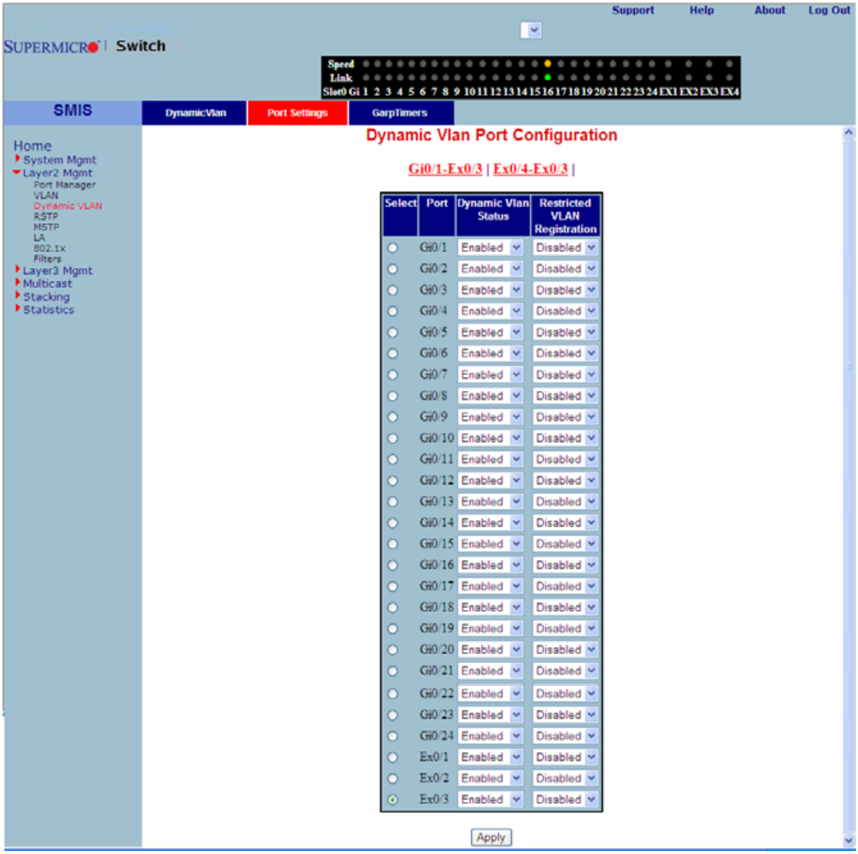
Dynamic Vlan Global Configuration

Select	Context	Dynamic Vlan Status
●	0	Enabled

Clicking on the DYNAMIC VLAN tab brings up the DYNAMIC VLAN GLOBAL CONFIGURATION page (Figure 7-52). A single parameter for context, which is used to specify the Context ID, is present on this page.

Port Settings

Figure 7-53. Dynamic VLAN Port Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
DynamicVlan
Port Settings
GarpTimers
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Dynamic Vlan Port Configuration

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port	Dynamic Vlan Status	Restricted VLAN Registration
○	Gi0/1	Enabled	Disabled
○	Gi0/2	Enabled	Disabled
○	Gi0/3	Enabled	Disabled
○	Gi0/4	Enabled	Disabled
○	Gi0/5	Enabled	Disabled
○	Gi0/6	Enabled	Disabled
○	Gi0/7	Enabled	Disabled
○	Gi0/8	Enabled	Disabled
○	Gi0/9	Enabled	Disabled
○	Gi0/10	Enabled	Disabled
○	Gi0/11	Enabled	Disabled
○	Gi0/12	Enabled	Disabled
○	Gi0/13	Enabled	Disabled
○	Gi0/14	Enabled	Disabled
○	Gi0/15	Enabled	Disabled
○	Gi0/16	Enabled	Disabled
○	Gi0/17	Enabled	Disabled
○	Gi0/18	Enabled	Disabled
○	Gi0/19	Enabled	Disabled
○	Gi0/20	Enabled	Disabled
○	Gi0/21	Enabled	Disabled
○	Gi0/22	Enabled	Disabled
○	Gi0/23	Enabled	Disabled
○	Gi0/24	Enabled	Disabled
○	Ex0/1	Enabled	Disabled
○	Ex0/2	Enabled	Disabled
●	Ex0/3	Enabled	Disabled

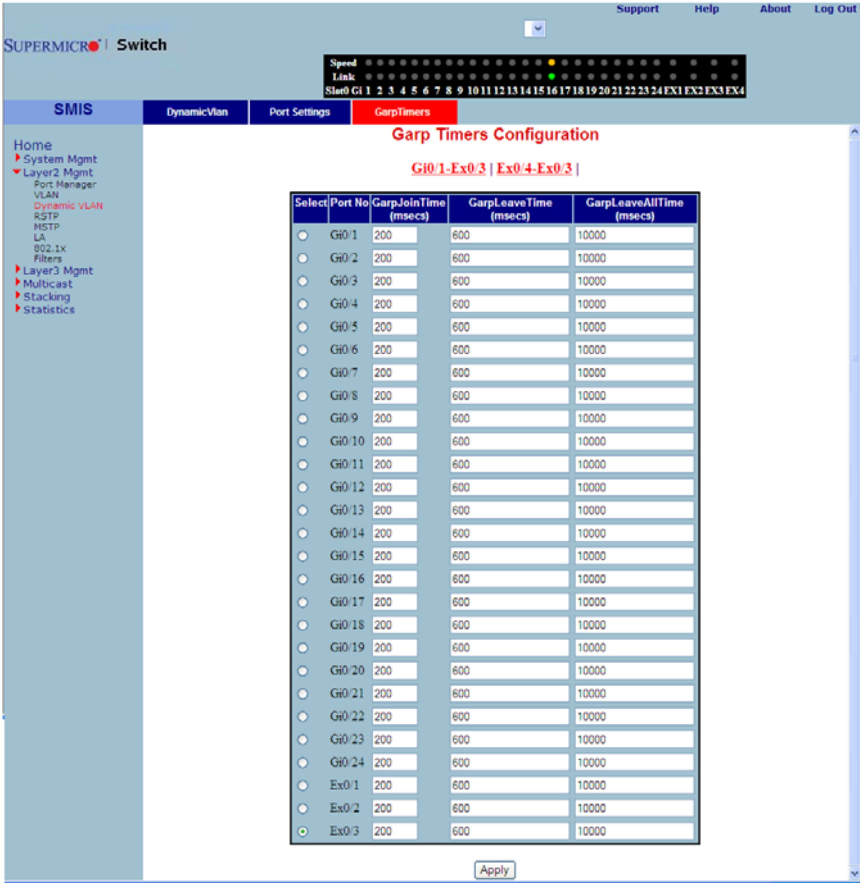
Clicking on the PORT SETTINGS tab brings up the DYNAMIC VLAN PORT CONFIGURATION page (Figure 7-53). Table 7-34 lists the parameters found on this page.

Table 7-34. Dynamic VLAN Port Configuration Page Parameters

Parameter	Description
Port	Specifies the Interface index.
Dynamic VLAN Status	Allows you to **Enable**/**Disable** Dynamic VLAN Status in the switch.
Restricted VLAN Registration	Allows you to **Enable**/**Disable** Restricted VLAN Registration in the switch.

Garp Timers

Figure 7-54. Garp Timers Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
DynamicVlan
Port Settings
GarpTimers
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Garp Timers Configuration

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port No	GarpJoinTime (msecs)	GarpLeaveTime (msecs)	GarpLeaveAllTime (msecs)
○	Gi0/1	200	600	10000
○	Gi0/2	200	600	10000
○	Gi0/3	200	600	10000
○	Gi0/4	200	600	10000
○	Gi0/5	200	600	10000
○	Gi0/6	200	600	10000
○	Gi0/7	200	600	10000
○	Gi0/8	200	600	10000
○	Gi0/9	200	600	10000
○	Gi0/10	200	600	10000
○	Gi0/11	200	600	10000
○	Gi0/12	200	600	10000
○	Gi0/13	200	600	10000
○	Gi0/14	200	600	10000
○	Gi0/15	200	600	10000
○	Gi0/16	200	600	10000
○	Gi0/17	200	600	10000
○	Gi0/18	200	600	10000
○	Gi0/19	200	600	10000
○	Gi0/20	200	600	10000
○	Gi0/21	200	600	10000
○	Gi0/22	200	600	10000
○	Gi0/23	200	600	10000
○	Gi0/24	200	600	10000
○	Ex0/1	200	600	10000
○	Ex0/2	200	600	10000
●	Ex0/3	200	600	10000

Clicking on the GARP TIMERS tab brings up the GARP TIMERS CONFIGURATION page (Figure 7-54). Table 7-35 lists the parameters found on this page.

Table 7-35. Garp Timers Configuration Page Parameters

Parameter	Description
GarpJoinTime (msecs)	Specifies the GARP Join Time.
GarpLeaveTime (msecs)	Specifies the GARP Leave Time.
GarpLeaveAllTime (msecs)	Specifies the GARP Leave All Time.

RSTP

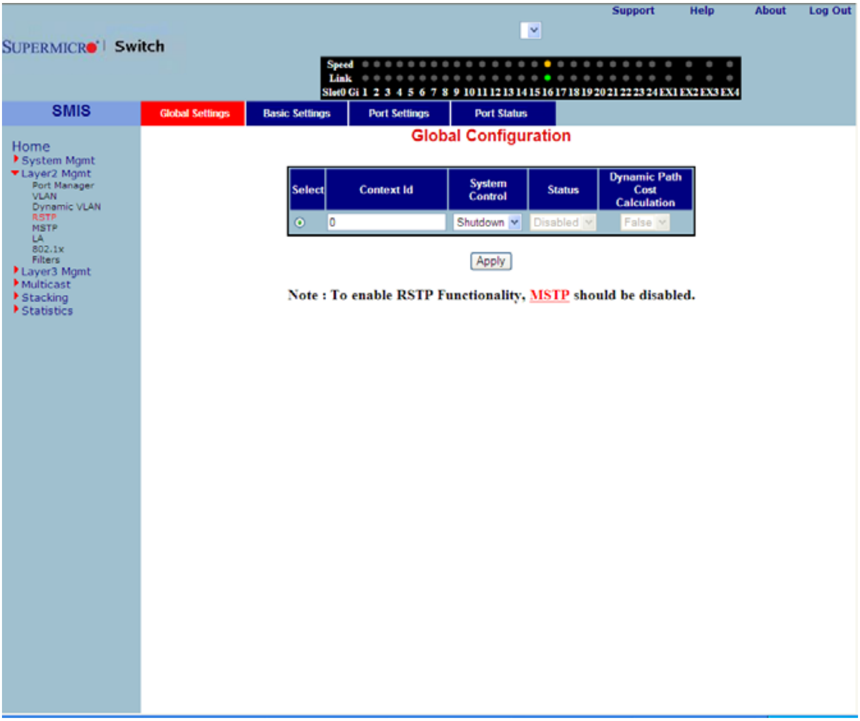
The RSTP link provides access to the following control tabs:

- Global Settings
- Basic Settings
- Port Settings
- Port Status

By default, the GLOBAL SETTINGS tab is loaded.

Global Settings

Figure 7-55. RSTP Global Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Global Settings
Basic Settings
Port Settings
Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Global Configuration

Select	Context Id	System Control	Status	Dynamic Path Cost Calculation
●	0	Shutdown	Disabled	False

Note : To enable RSTP Functionality, MSTP should be disabled.

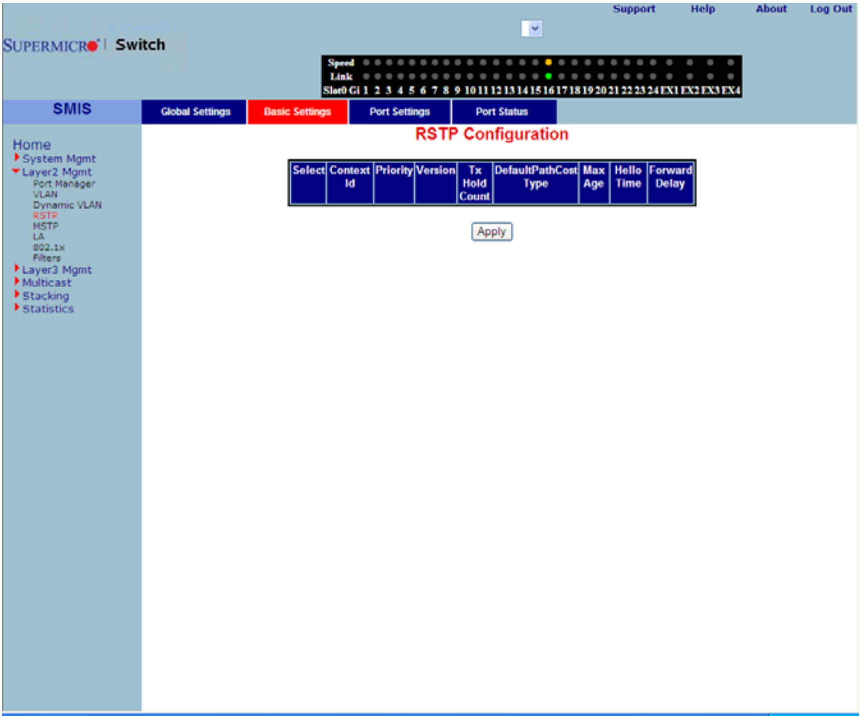
Clicking on the GLOBAL SETTINGS tab brings up the RSTP GLOBAL CONFIGURATION page (Figure 7-55). Table 7-36 lists the parameters found on this page.

Table 7-36. RSTP Global Configuration Page Parameters

Parameter	Description
Context ID	Specifies the context ID.
System Control	**Starts** or **Shutsdown** RSTP in switch.
Status	Allows you to **Enable**/**Disable** the protocol at a global level on the switch.
Dynamic Path Cost Calculation	Permits to determine whether dynamic path cost calculation is allowed or not.

Basic Settings

Figure 7-56. RSTP Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Global Settings
Basic Settings
Port Settings
Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
RSTP Configuration
Apply

Select	Context Id	Priority	Version	Tx Hold Count	DefaultPathCost Type	Max Age	Hello Time	Forward Delay

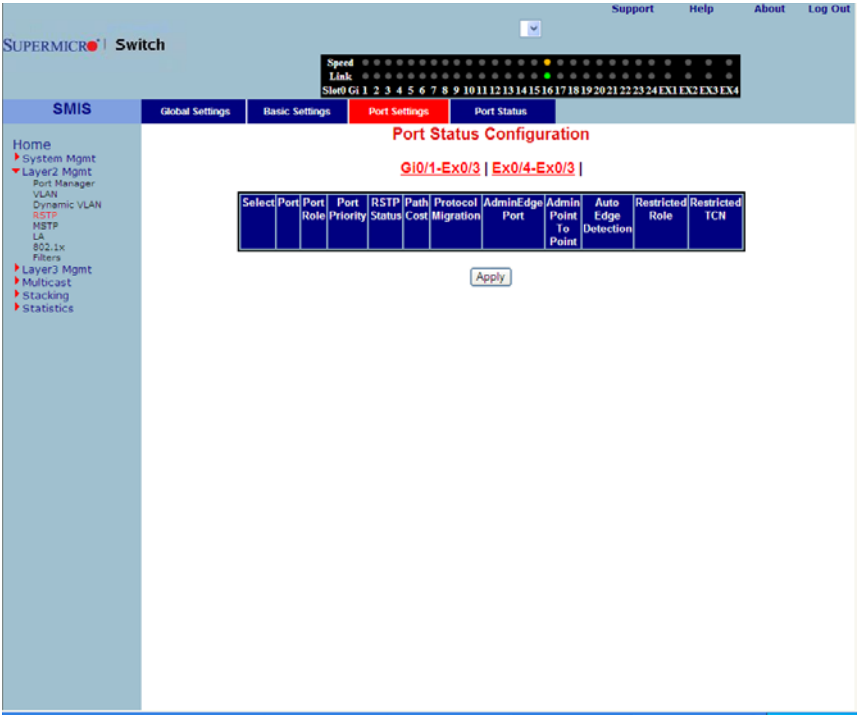
Clicking on the Basic Settings tab brings up the RSTP Configuration page (Figure 7-56). Table 7-37 lists the parameters found on this page.

Table 7-37. RSTP Configuration Page Parameters

Parameter	Description
Context ID	Specifies the context ID, which is operated currently.
Priority	Specifies the priority of the switch.
Version	Specifies the current protocol type (STP/RSTP).
Tx Hold Count	Specifies the maximum number of BPDU that can be transmitted in a second.
Default Path Cost Type	Specifies the path cost type (32/16 Bits).
Maximum Age (Secs)	Specifies the time period for which the information received in RSTP BDPU is valid.
Hello Time (Secs)	Specifies the time interval between two successive configuration BPDUs.
Forward Delay (Secs)	Specifies the time taken for ports to transit from one state to another.

Port Settings

Figure 7-57. Port Status Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Global Settings
Basic Settings
Port Settings
Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Port Status Configuration
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Select	Port	Port Role	Port Priority	RSTP Status	Path Cost	Protocol Migration	AdminEdge Port	Admin Point To Point	Auto Edge Detection	Restricted Role	Restricted TCN

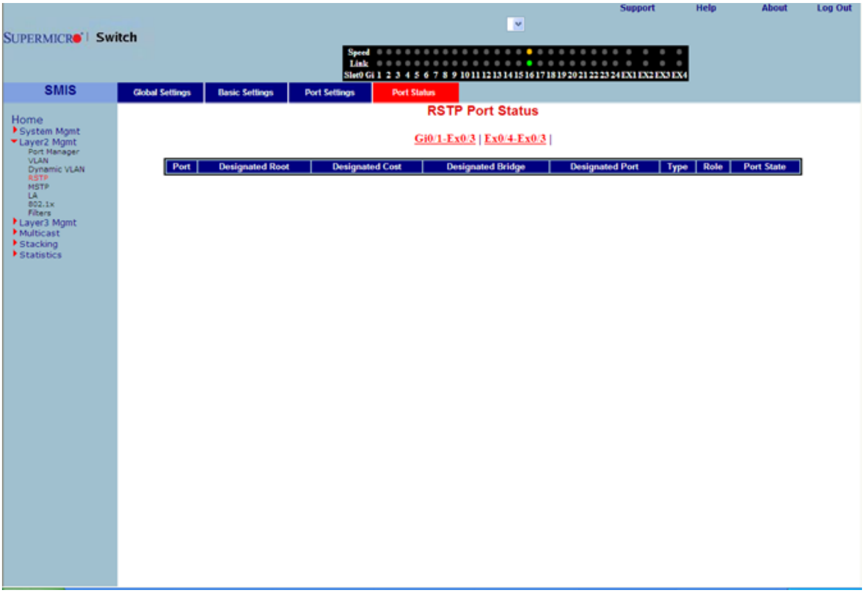
Clicking on the PORT SETTINGS tab brings up the PORT STATUS CONFIGURATION page (Figure 7-57). The configuration per port related to RSTP can be done through this page. Table 7-38 lists the parameters found on this page.

Table 7-38. Port Status Configuration Page Parameters

Parameter	Description
Port	Specifies the port identifier.
Port Role	Indicates the current port role assumed by the port.
RSTP Status	Specifies the RSTP protocol status that can be enabled/disabled on a particular port.
Port Priority	Specifies the port priority used in role selection.
Path Cost	Specifies the path cost associated with this port.
Protocol Migration	Allows to control the migration from RSTP to STP, if the other side of the switch runs STP. The migration takes place only if this is enabled.
Admin Edge Port	Allows to configure the port as Edge Port must be configured, if the corresponding port is an edge port.
Admin Point-to-Point	Allows user to explicitly configure ports as **Point-to-Point** (Force true), **Non-Point-to-Point** or leave the decision to be made dynamically (from AL or MAC layer).
Auto Edge Detection	Permits you to dynamically calculate Edge Port status.
Restricted Role	Specifies the Restricted role status of the port.
Restricted TCN	Indicates the Restricted TCN status of the port.

Port Status

Figure 7-58. RSTP Port Status Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Global Settings
Basic Settings
Port Settings
Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics

RSTP Port Status

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Port	Designated Root	Designated Cost	Designated Bridge	Designated Port	Type	Role	Port State

Clicking on the PORT STATUS tab brings up the RSTP PORT STATUS page (Figure 7-58). This page displays RSTP port specific information. Table 7-39 lists the parameters found on this page.

Table 7-39. RSTP Port Status Page Parameters

Parameter	Description
Designated Root	Specifies the unique Bridge Identifier of the Bridge recorded as the Root for the segment to which the port is attached.
Designated Cost	Specifies the path cost of the Designated Port of the segment connected to this port.
Designated Bridge	Specifies the Bridge Identifier of the bridge, which this port considers to be the Designated Bridge for this port's segment.
Designated Port	Specifies the Port Identifier of the port on the Designated Bridge for this port's segment.
Type	Specifies the operational point-to-point status of the LAN (Local Area Network) segment attached to this port. It indicates whether a port is considered to have a point-to-point connection or shared media.
Role	Specifies the Port's Current Role as defined by Spanning Tree Protocol.
Port State	Specifies the port's current state as defined by application of the Spanning Tree Protocol.

MSTP

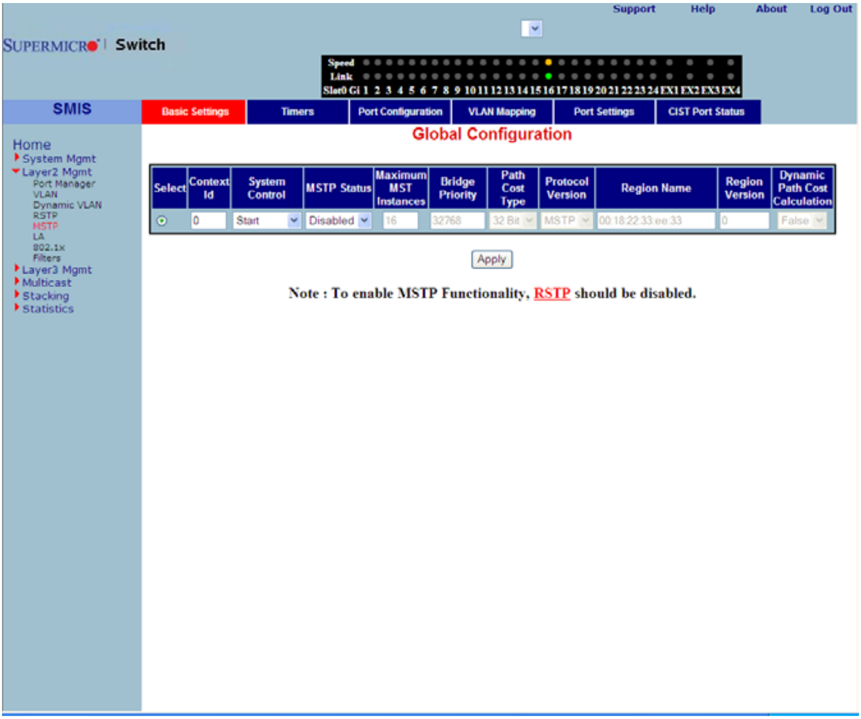
The MSTP link leads you to the following control tabs:

- Basic Settings
- Timers
- Port Configuration
- VLAN Mapping
- Port Settings
- CIST Port Status

By default, the Basic Settings tab is loaded.

Basic Settings

Figure 7-59. MSTP Global Configuration Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Timers
Port Configuration
VLAN Mapping
Port Settings
CIST Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Global Configuration

Select	Context Id	System Control	MSTP Status	Maximum MST Instances	Bridge Priority	Path Cost Type	Protocol Version	Region Name	Region Version	Dynamic Path Cost Calculation
●	0	Start	Disabled	16	32768	32 Bit	MSTP	00:18:22:33:ee:33	0	False

Note : To enable MSTP Functionality, RSTP should be disabled.

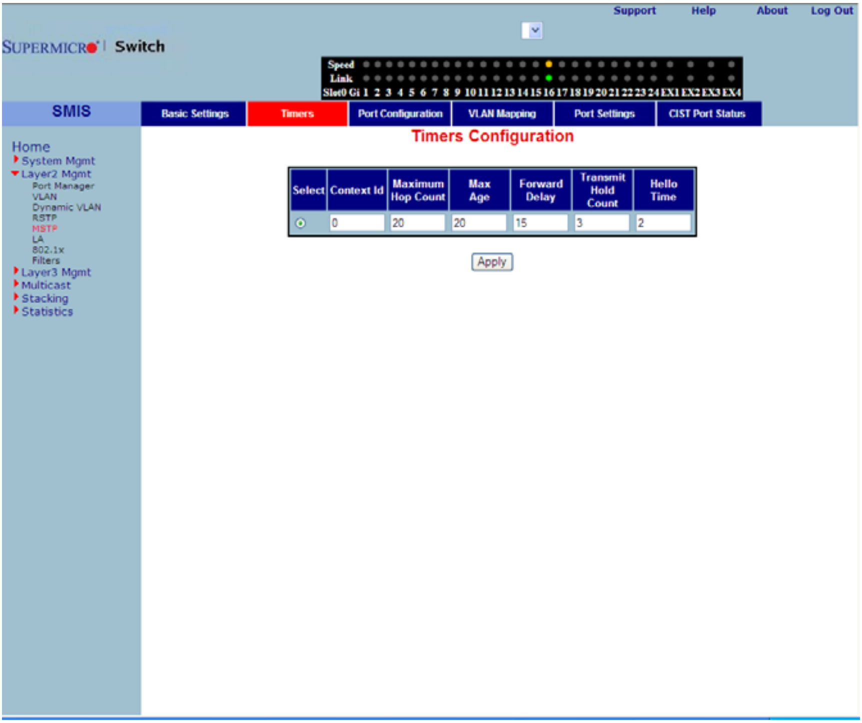
Clicking on the Basic Settings tab brings up the MSTP Global Configuration page (Figure 7-59). The MSTP global configuration can be accessed through this page. Table 7-40 lists the parameters found on this page.

Table 7-40. MSTP Global Configuration Page Parameters

Parameter	**Description**
Context ID	Specifies the Context ID.
System Control	Starts or Shutdowns MSTP in switch.
MSTP Status	Allows you to **Enable**/**Disable** the protocol at a global level on the switch using this field.
Maximum MST Instances	Specifies the maximum number of spanning trees to be allowed.
Bridge Priority	Specifies the Priority value assigned to the bridge that is used to select the root bridge.
Path Cost Type	Specifies the version of the Spanning Tree default path cost that is to be used by the bridge.
Protocol Version	Specifies the version of Spanning Tree Protocol the bridge is currently running.
Region Name	Specifies the name for the Region's configuration. By default the region name will be the bridge MAC address.
Region Version	Specifies the version number of the configuration to be used.
Dynamic Path Cost Calculation	Permits to determine whether dynamic path cost calculation is allowed or not.

Timers

Figure 7-60. Timers Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Timers
Port Configuration
VLAN Mapping
Port Settings
CIST Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

Timers Configuration

Select	Context Id	Maximum Hop Count	Max Age	Forward Delay	Transmit Hold Count	Hello Time
●	0	20	20	15	3	2

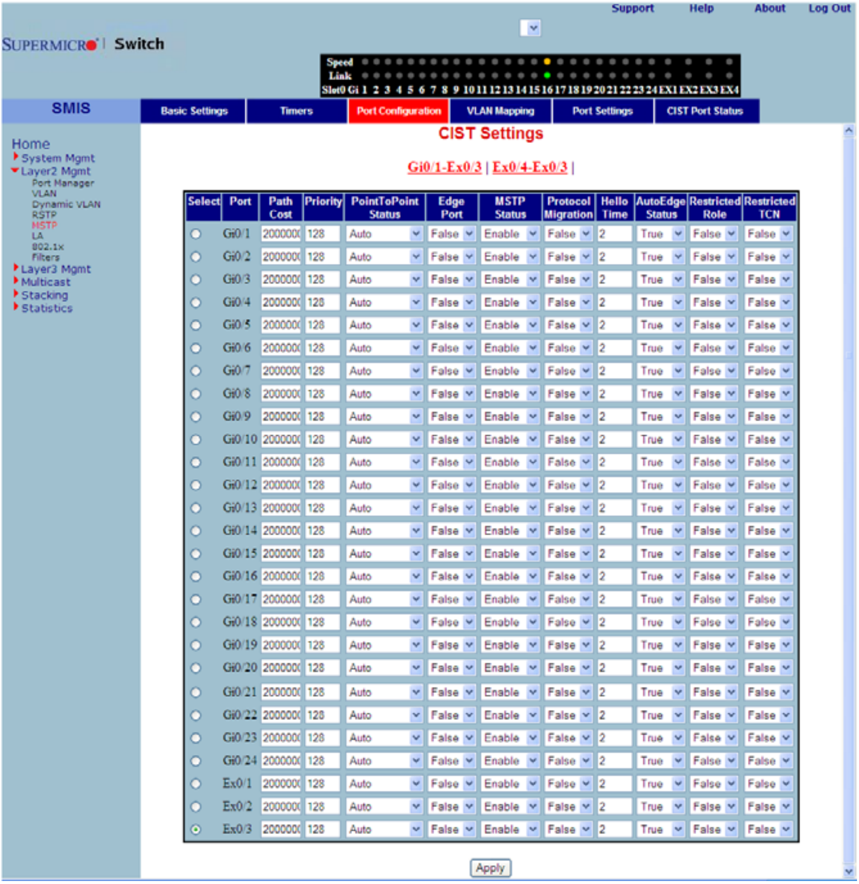
Clicking on the Timers tab brings up the Timers Configuration page (Figure 7-60). Table 7-41 lists the parameters found on this page.

Table 7-41. Timers Configuration Page Parameters

Parameter	Description
Context ID	Specifies the context ID.
Maximum Hop Count	Indicates the Maximum Hop Count value.
Max Age	Specifies the time period for which the information received in the MSTP BDPU is valid.
Forward Delay	Specifies how fast a port changes its spanning state when moving towards the Forwarding state.
Transmit Hold Count	Specifies the maximum number of packets that can be sent in a given interval. This is configured to avoid flooding.
Hello Time (Secs)	Specifies the time interval between two successive configuration BPDUs (Bridge Protocol Data Units).

Port Configuration

Figure 7-61. CIST Settings Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Timers
Port Configuration
VLAN Mapping
Port Settings
CIST Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

CIST Settings

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port	Path Cost	Priority	PointToPoint Status	Edge Port	MSTP Status	Protocol Migration	Hello Time	AutoEdge Status	Restricted Role	Restricted TCN
○	Gi0/1	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/2	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/3	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/4	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/5	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/6	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/7	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/8	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/9	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/10	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/11	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/12	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/13	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/14	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/15	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/16	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/17	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/18	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/19	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/20	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/21	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/22	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/23	200000	128	Auto	False	Enable	False	2	True	False	False
○	Gi0/24	200000	128	Auto	False	Enable	False	2	True	False	False
○	Ex0/1	200000	128	Auto	False	Enable	False	2	True	False	False
○	Ex0/2	200000	128	Auto	False	Enable	False	2	True	False	False
●	Ex0/3	200000	128	Auto	False	Enable	False	2	True	False	False

Clicking on the PORT CONFIGURATION tab brings up the CIST SETTINGS page (Figure 7-61). The configuration per Port related to MSTP can be done through this page. Table 7-42 lists the parameters found on this page.

Table 7-42. CIST Settings Page Parameters

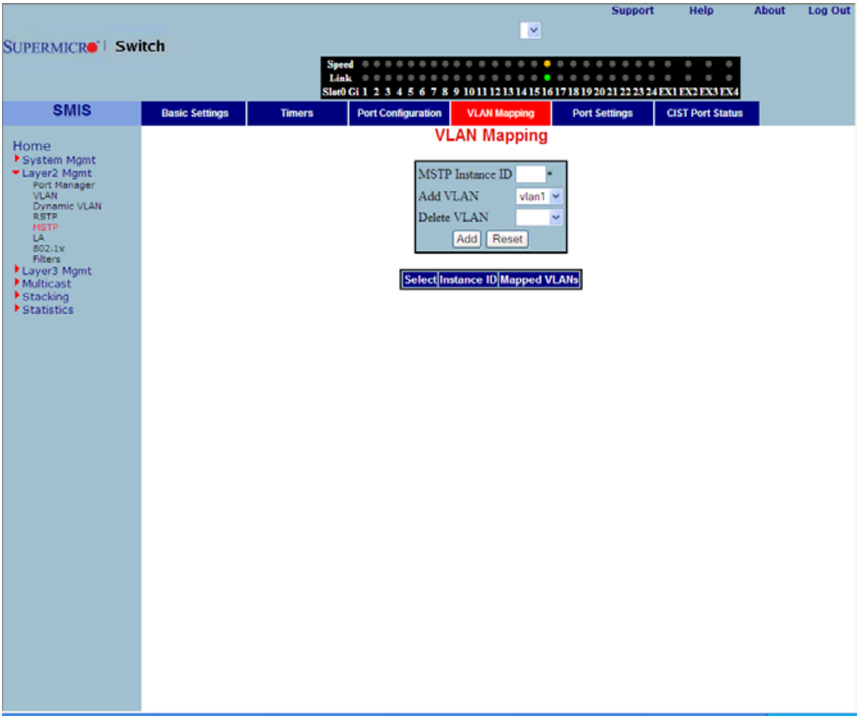
Parameter	Description
Port	Specifies the port identifier.
MSTP Status	Allows you to **Enable**/**Disable** the MSTP protocol status on the particular port.

Table 7-42. CIST Settings Page Parameters (Continued)

Parameter	Description
Priority	Specifies the port priority used in role selection.
Path Cost	Specifies the path cost associated with this port.
Protocol Migration	This is to control the migration among MSTP, RSTP and STP protocols, if the other side of the switch runs a different mode. Migration takes place only if this is enabled.
Edge Port	This must be configured, if the corresponding port is an edge port.
Point-to-Point Status	You can configure the ports explicitly as **Point-to-Point** (Force true), **Non-Point-to-Point** port or leave the decision to be made dynamically (from AL or MAC layer).
Hello Time (Secs)	Specifies administrative value of hello time for the port.
Auto Edge Status	If set to **True**, the edge port status will be dynamically calculated.
Restricted Role	Specifies the Restricted role status of the port.
Restricted TCN	Indicates the Restricted TCN status of the port.

VLAN Mapping

Figure 7-62. VLAN Mapping Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Timers
Port Configuration
VLAN Mapping
Port Settings
CIST Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
VLAN Mapping
Add
Reset
Select
Instance ID
Mapped VLANs

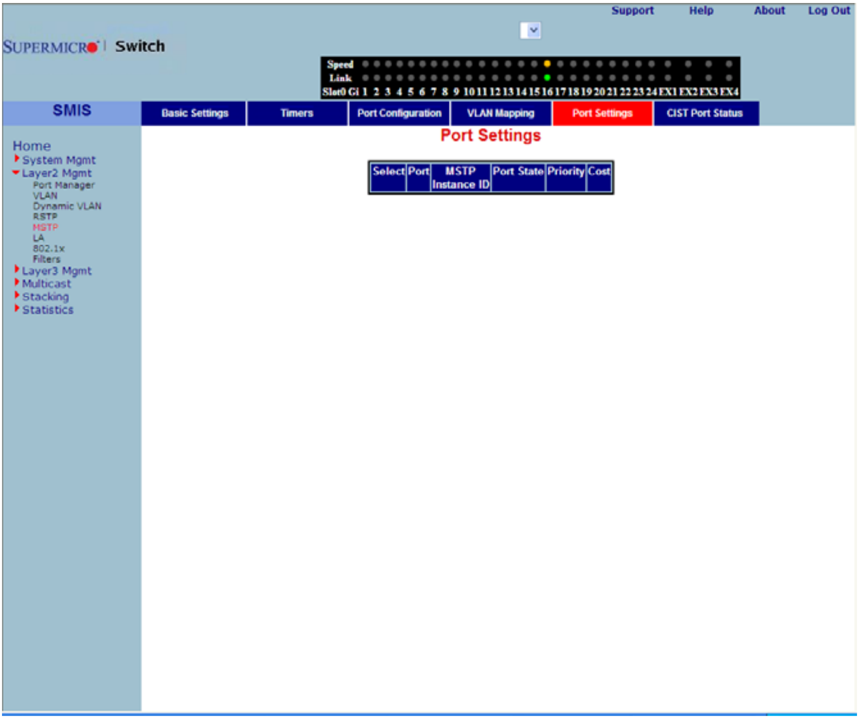
MSTP Instance ID
Add VLAN vlan1
Delete VLAN

Clicking on the VLAN MAPPING tab brings up the VLAN MAPPING page (Figure 7-62). This table contains one entry for each instance of MSTP. Table 7-43 lists the parameters found on this page.

Table 7-43. VLAN Mapping Page Parameters

Parameter	Description
MSTP Instance ID	Specifies the Instance ID, which is the index of the table.
Add VLAN	Specifies the list of VLANs from which the VLAN to be mapped to this instance of the spanning tree can be selected.
Delete VLAN	Specifies the list of VLANs from which the VLAN to be unmapped from this instance of the spanning tree can be selected.

Port Settings


Support
Help
About
Log Out
SUPERMICR Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Timers
Port Configuration
VLAN Mapping
Port Settings
CIST Port Status
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics

Port Settings

Select	Port	MSTP Instance ID	Port State	Priority	Cost

Figure 7-63. Port Settings Page

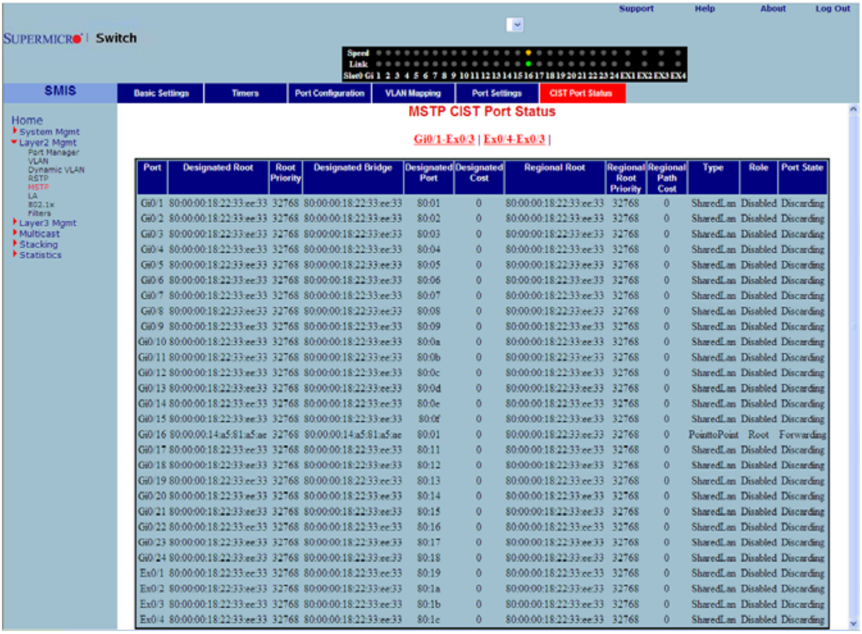
Clicking on the PORT SETTINGS tab brings up the PORT SETTINGS page (Figure 7-63). Table 7-44 lists the parameters found on this page.

Table 7-44. Port Settings Page Parameters

Parameter	Description
Port	Specifies the interface index of the port on which MSTP is run.
MSTP Instance ID	Specifies the instance ID of the STP that is associated with this instance.
Port State	Specifies the current state of the port.
Priority	Specifies the priority related to this port.
Cost	Specifies the cost associated with this port, which will be added to the cost of any path that includes this port.

CIST Port Status

Figure 7-64. MSTP CIST Port Status Page



MSTP CIST Port Status

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Port	Designated Root	Root Priority	Designated Bridge	Designated Port	Designated Cost	Regional Root	Regional Root Priority	Regional Path Cost	Type	Role	Port State
Gi0/1	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:01	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/2	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:02	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/3	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:03	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/4	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:04	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/5	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:05	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/6	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:06	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/7	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:07	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/8	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:08	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/9	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:09	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/10	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:0a	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/11	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:0b	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/12	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:0c	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/13	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:0d	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/14	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:0e	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/15	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:0f	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/16	80:00:00:14:a5:81:a5:ae	32768	80:00:00:14:a5:81:a5:ae	80:01	0	80:00:00:18:22:33:ee:33	32768	0	PointtoPoint	Root	Forwarding
Gi0/17	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:11	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/18	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:12	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/19	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:13	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/20	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:14	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/21	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:15	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/22	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:16	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/23	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:17	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Gi0/24	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:18	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Ex0/1	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:19	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Ex0/2	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:1a	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Ex0/3	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:1b	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding
Ex0/4	80:00:00:18:22:33:ee:33	32768	80:00:00:18:22:33:ee:33	80:1c	0	80:00:00:18:22:33:ee:33	32768	0	SharedLan	Disabled	Discarding

Clicking on the CIST PORT STATUS tab brings up the MSTP CIST PORT STATUS page (Figure 7-64). This page displays the MSTP CIST port specific information. Table 7-45 lists the parameters found on this page.

Table 7-45. MSTP CIST Port Status Page Parameters

Parameter	Description
Designated Root	Specifies the unique Bridge Identifier of the Bridge recorded as the Root for the segment to which the port is attached.
Designated Bridge	Specifies the Bridge Identifier of the bridge, which this port considers to be the Designated Bridge for this port's segment.
Designated Port	Specifies the Port Identifier of the port on the Designated Bridge for this port's segment.
Designated Cost	Specifies the path cost of the Designated Port of the segment connected to this port.
Regional Root	Specifies the unique Bridge Identifier of the bridge recorded as the CIST Regional Root Identifier in the configuration BPDUs transmitted.
Regional Path Cost	Specifies the contribution of this port to the path cost of paths towards the CIST Regional Root, which includes this port.

Table 7-45. MSTP CIST Port Status Page Parameters (Continued)

Parameter	Description
Type	Specifies the operational point-to-point status of the LAN (Local Area Network) segment attached to this port. It indicates whether a port is considered to have a point-to-point connection or Shared media.
Role	Specifies the Ports Current Role as defined by Spanning Tree Protocol.
Port State	Specifies the port's current state as defined by application of the Spanning Tree Protocol.
Root priority	Specifies the priority of the root in the network for Common Internal Spanning Tree.
Regional Root Priority	Specifies the priority of the regional root in the network for this specific MSTI (Multiple Spanning Tree Instance).

LA

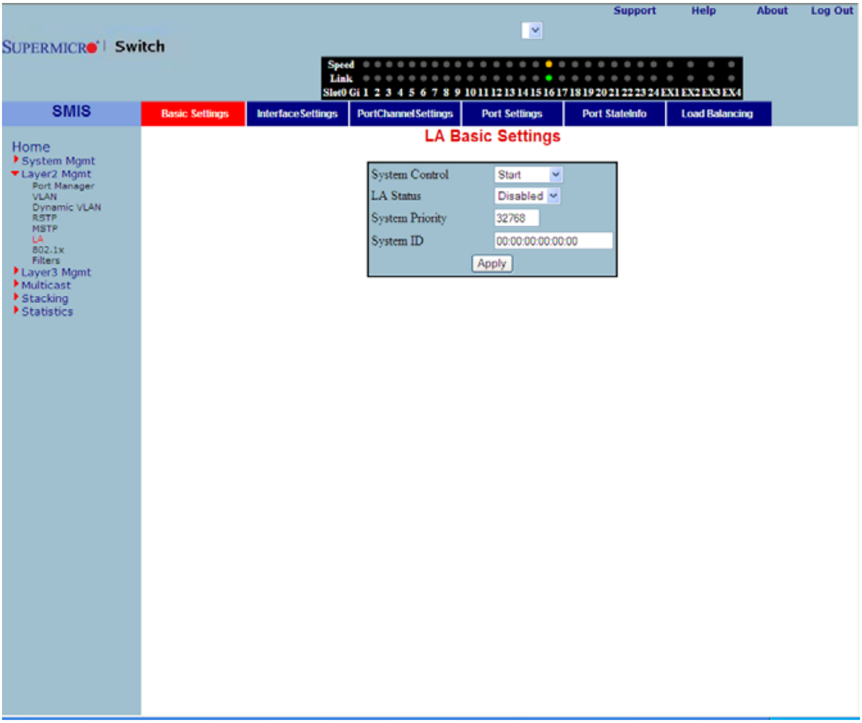
The LA link provides access to the following control tabs:

- Basic Settings
- Interface Settings
- Port Channel Settings
- Port Settings
- Port State Info
- Load Balancing

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-65. LA Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
InterfaceSettings
PortChannelSettings
Port Settings
Port StateInfo
Load Balancing
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

LA Basic Settings

System Control: Start
LA Status: Disabled
System Priority: 32768
System ID: 00:00:00:00:00:00

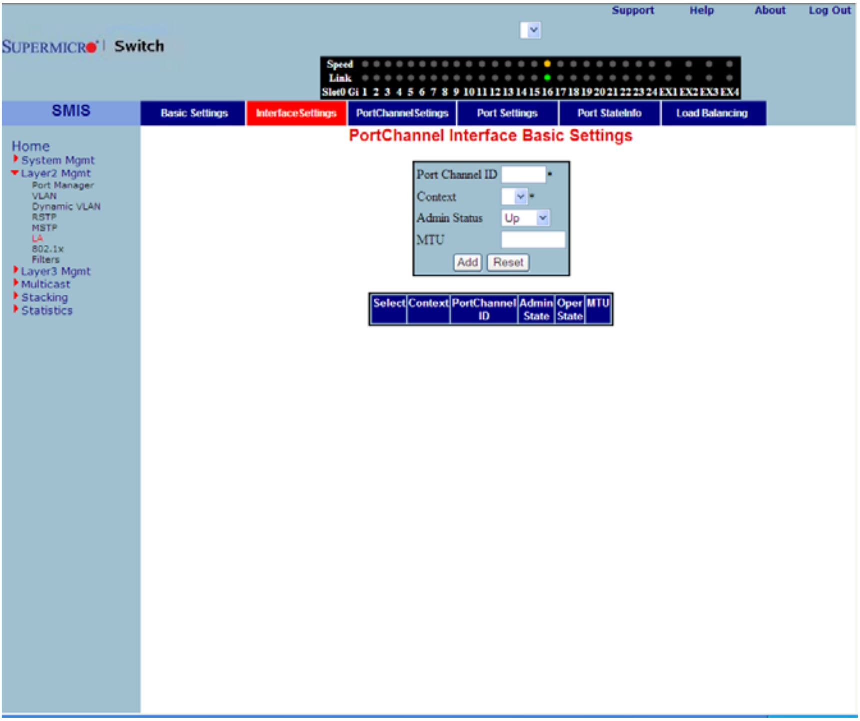
Clicking on the BASIC SETTINGS tab brings up the LA BASIC SETTINGS page (Figure 7-65). Table 7-46 lists the parameters found on this page.

Table 7-46. LA Basic Settings Page Parameters

Parameter	Description
System Control	Starts or Shutsdown LA in switch.
LA Status	Allows you to **Enable**/**Disable** LA in the switch.
System Priority	Specifies the priority value associated with the Actor's system ID.
System ID	Specifies the Bridge MAC Address that is displayed. This is a read-only parameter.

Interface Settings

Figure 7-66. PortChannel Interface Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Settings
PortChannel Settings
Port Settings
Port StateInfo
Load Balancing
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
PortChannel Interface Basic Settings
Port Channel ID *
Context *
Admin Status
MTU
Add
Reset
Select
Context
PortChannel ID
Admin State
Oper State
MTU

Admin Status: Up

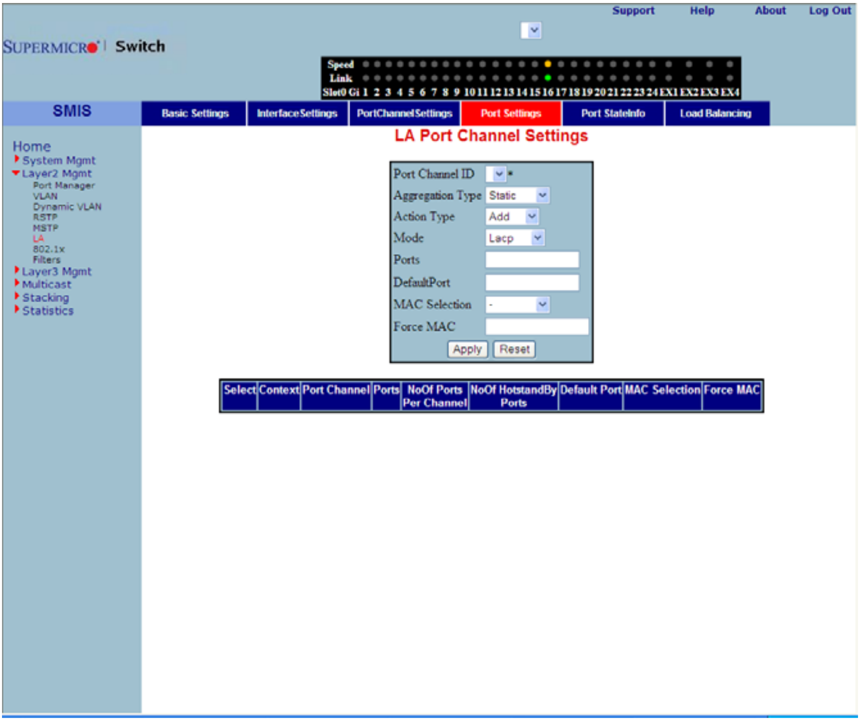
Clicking on the INTERFACE SETTINGS tab brings up the PORTCHANNEL INTERFACE BASIC SETTINGS page (Figure 7-66). Table 7-47 lists the parameters found on this page.

Table 7-47. PortChannel Interface Basic Settings Page Parameters

Parameter	**Description**
Port Channel ID	Specifies the Port-Channel Identifier.
Admin Status	Specifies the Admin Status of the port-channel.
MTU	Specifies the Maximum Transmission Unit of the Port-channel.
Context	Specifies the Context to which the Port channel is associated.

Port Channel Settings

Figure 7-67. LA Port Channel Settings Page


Support
Help
About
Log Out
SUPERMICR Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
InterfaceSettings
PortChannelSettings
Port Settings
Port StateInfo
Load Balancing
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply
Reset

LA Port Channel Settings

Port Channel ID *
Aggregation Type Static
Action Type Add
Mode Lacp
Ports
DefaultPort
MAC Selection -
Force MAC

Select	Context	Port Channel	Ports	NoOf Ports Per Channel	NoOf HotstandBy Ports	Default Port	MAC Selection	Force MAC

Clicking on the PORT SETTINGS tab brings up the LA PORT CHANNEL SETTINGS page (Figure 7-67). This page can be used to edit the Port Channel configuration. The first table in the page is meant for creating Port Channel interfaces while the second table is for editing/deleting the existing Port Channel configuration.

Table 7-48 lists the parameters found on this page.

Table 7-48. LA Port Channel Settings Page Parameters

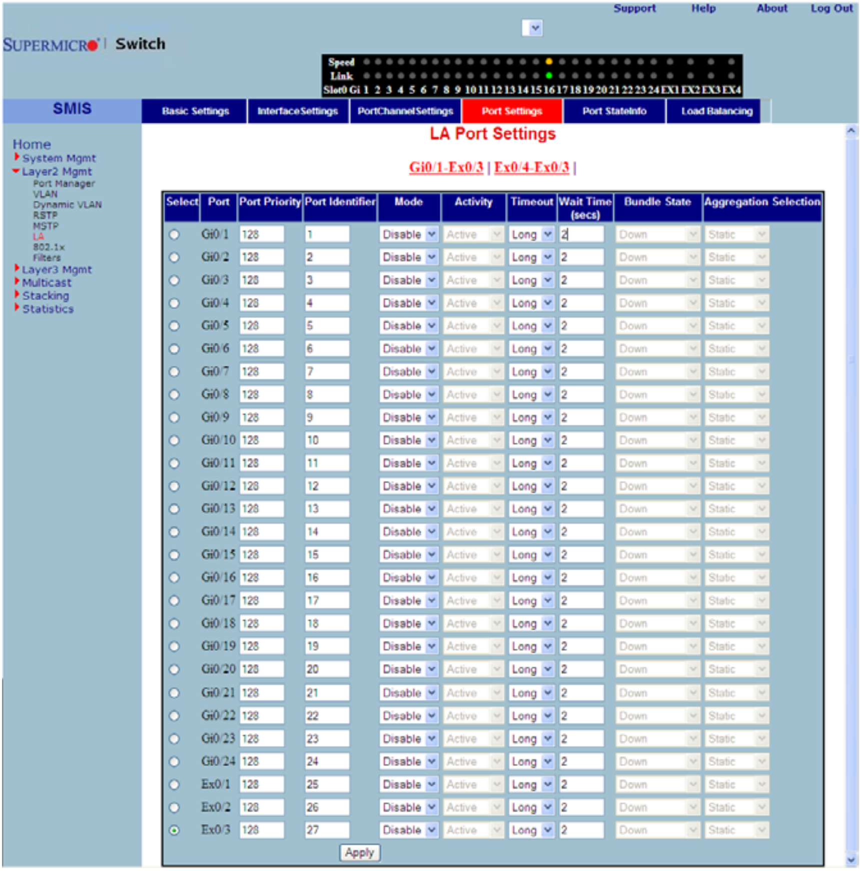
Parameter	Description
Port Channel ID	Specifies the identifier of the port channel interface.
Aggregation Type	Indicates whether the port chooses its aggregator dynamically or configure statically.
Context	Specifies the Context to which the Port channel is associated.
Action Type	Specifies whether the Port Channel must be created or deleted.

Table 7-48. LA Port Channel Settings Page Parameters (Continued)

Parameter	**Description**
Mode	Specifies the various Port Modes, such as **LACP** (Link Aggregation Control Protocol), **Manual** or **Disable**.
Ports	Specifies the interface indices that must be configured to be members of the Port Channel.
Default Port	Specifies the default port when the port is configured to participate in dynamic aggregator selection.
MAC Selection	Specifies the mode by which the MAC address for the Port Channel is assigned. It can be dynamic or the user can force select a specific MAC address.
Force MAC	Specifies the MAC Address that is assigned to the Port Channel. For this, the MAC selection mode must be **Force**.
No Of Ports Per Channel	Indicates the number of ports that are bundled per port channel.
No Of HotstandBy Ports	Indicates the number of ports that are in standby state per port channel.

Port Settings

Figure 7-68. LA Port Settings Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
InterfaceSettings
PortChannelSettings
Port Settings
Port StateInfo
Load Balancing
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
LA Port Settings
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Select	Port	Port Priority	Port Identifier	Mode	Activity	Timeout	Wait Time (secs)	Bundle State	Aggregation Selection
○	Gi0/1	128	1	Disable	Active	Long	2	Down	Static
○	Gi0/2	128	2	Disable	Active	Long	2	Down	Static
○	Gi0/3	128	3	Disable	Active	Long	2	Down	Static
○	Gi0/4	128	4	Disable	Active	Long	2	Down	Static
○	Gi0/5	128	5	Disable	Active	Long	2	Down	Static
○	Gi0/6	128	6	Disable	Active	Long	2	Down	Static
○	Gi0/7	128	7	Disable	Active	Long	2	Down	Static
○	Gi0/8	128	8	Disable	Active	Long	2	Down	Static
○	Gi0/9	128	9	Disable	Active	Long	2	Down	Static
○	Gi0/10	128	10	Disable	Active	Long	2	Down	Static
○	Gi0/11	128	11	Disable	Active	Long	2	Down	Static
○	Gi0/12	128	12	Disable	Active	Long	2	Down	Static
○	Gi0/13	128	13	Disable	Active	Long	2	Down	Static
○	Gi0/14	128	14	Disable	Active	Long	2	Down	Static
○	Gi0/15	128	15	Disable	Active	Long	2	Down	Static
○	Gi0/16	128	16	Disable	Active	Long	2	Down	Static
○	Gi0/17	128	17	Disable	Active	Long	2	Down	Static
○	Gi0/18	128	18	Disable	Active	Long	2	Down	Static
○	Gi0/19	128	19	Disable	Active	Long	2	Down	Static
○	Gi0/20	128	20	Disable	Active	Long	2	Down	Static
○	Gi0/21	128	21	Disable	Active	Long	2	Down	Static
○	Gi0/22	128	22	Disable	Active	Long	2	Down	Static
○	Gi0/23	128	23	Disable	Active	Long	2	Down	Static
○	Gi0/24	128	24	Disable	Active	Long	2	Down	Static
○	Ex0/1	128	25	Disable	Active	Long	2	Down	Static
○	Ex0/2	128	26	Disable	Active	Long	2	Down	Static
●	Ex0/3	128	27	Disable	Active	Long	2	Down	Static

Clicking on the PORT SETTINGS tab brings up the LA PORT SETTINGS page (Figure 7-68). You can configure LA properties at per-port level in this page. Table 7-49 lists the parameters found on this page.

Table 7-49. LA Port Settings Page Parameters

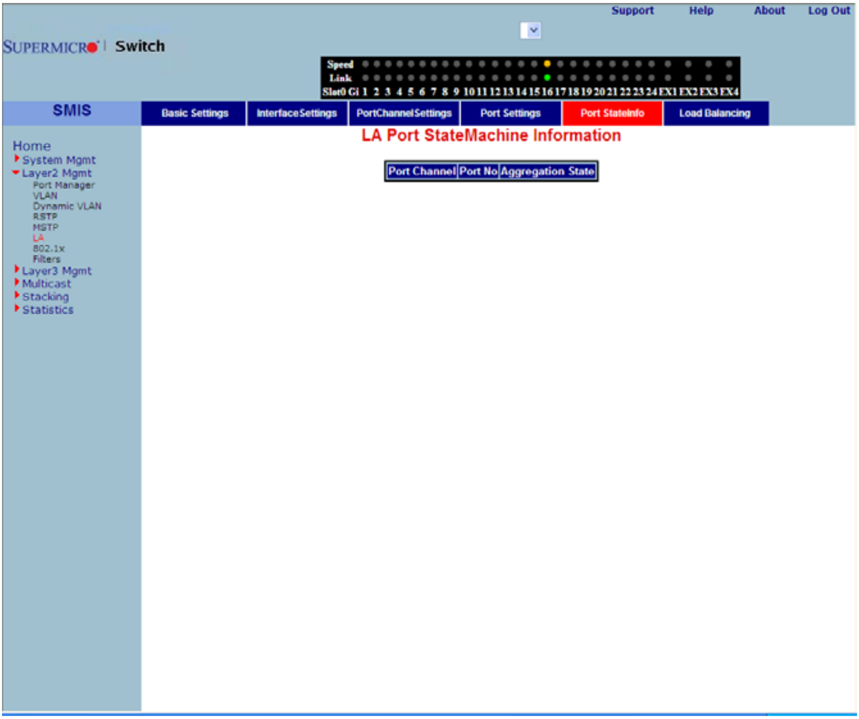
Parameter	Description
Port	Specifies the Interface Index.
Port Priority	Specifies the Priority value of the Port.
Port Identifier	Specifies the Port Identity Number.

Table 7-49. LA Port Settings Page Parameters (Continued)

Parameter	Description
Mode	Specifies the various Port Modes, such as **LACP**, **Manual** or **Disable**.
Activity	Specifies whether the Port LACP Activity is **Active** or **Passive**.
Timeout	Sets the time within which LACP PDUs must be received on a port to avoid timing out of the Aggregated Link. If **long** timeout is chosen then the ports will time out of the Port Channel in 90 seconds. If **short** timeout is chosen then the ports will time out of the Port Channel in 3 seconds.
Wait Time (secs)	Configures the waiting time for a port after receiving Partner information and before entering aggregation.
Bundle State	Indicates the current state of the port with respect to Link Aggregation. The possible states are: • **Up in Bundle** - The Port is an active member of the Port Channel. • **Up Individual** - The Port is not a member of any Port Channel but its Oper-Status is Up. • **Standby** - The Port is a member of the Port Channel but is currently in standby state. • **Down** - The Ports Oper-Status is Down.
Aggregation Selection	Indicates whether the port chooses its aggregator dynamically or configure statically.

Port State Info

Figure 7-69. LA Port StateMachine Information Page

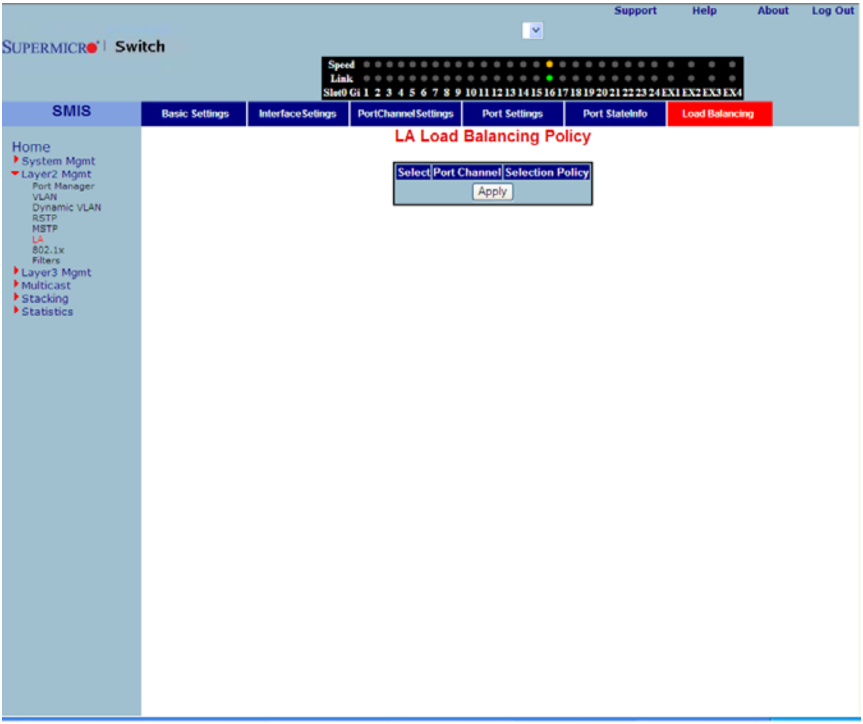

Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
InterfaceSettings
PortChannelSettings
Port Settings
Port StateInfo
Load Balancing
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
LA Port StateMachine Information

Port Channel	Port No	Aggregation State

Clicking on the PORT STATE INFO tab brings up the LA PORT STATEMACHINE INFORMATION page (Figure 7-69). This page displays the mapping between the Port channel, the Port and the aggregation state.

Load Balancing

Figure 7-70. LA Load Balancing Policy Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
InterfaceSettings
PortChannelSettings
Port Settings
Port StateInfo
Load Balancing
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

LA Load Balancing Policy

Select	Port Channel	Selection Policy

Clicking on the Load Balancing tab brings up the LA Load Balancing Policy page (Figure 7-70). This page allows you to choose the selection policy for load distribution on the aggregated links. The selection policy can be one of the following - Source MAC Based, Destination MAC Based, Both Source And Destination MAC, Source IP Address, Destination IP Address or Both IP Addresses.

802.1x

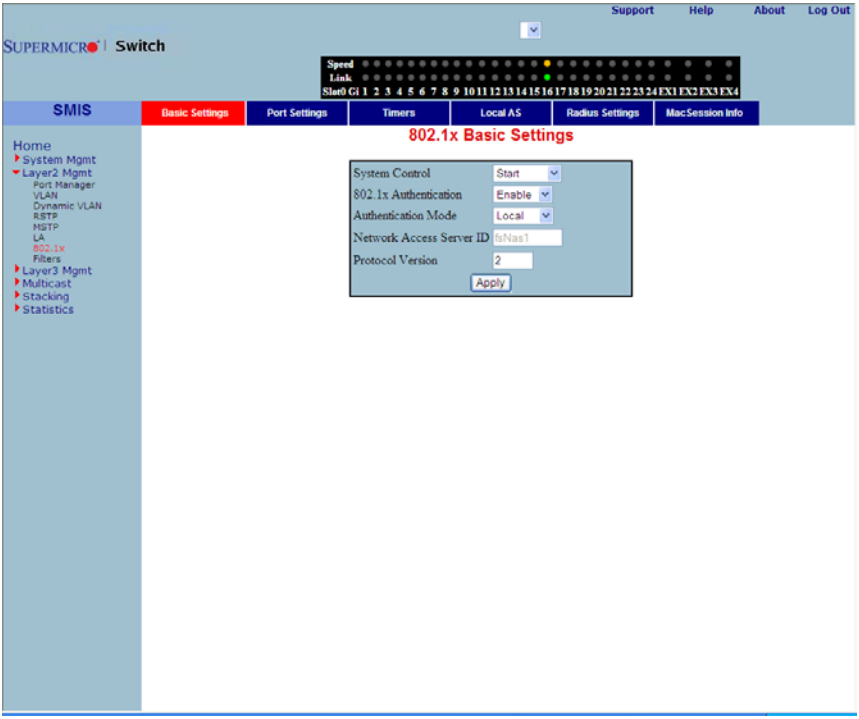
The 802.1x link provides access to the following control tabs:

- Basic Settings
- Port Settings
- Timers
- Local AS
- Radius Settings
- MAC Session Info

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-71. 802.1x Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Timers
Local AS
Radius Settings
MacSession Info
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

802.1x Basic Settings

System Control: Start
802.1x Authentication: Enable
Authentication Mode: Local
Network Access Server ID: fsNas1
Protocol Version: 2

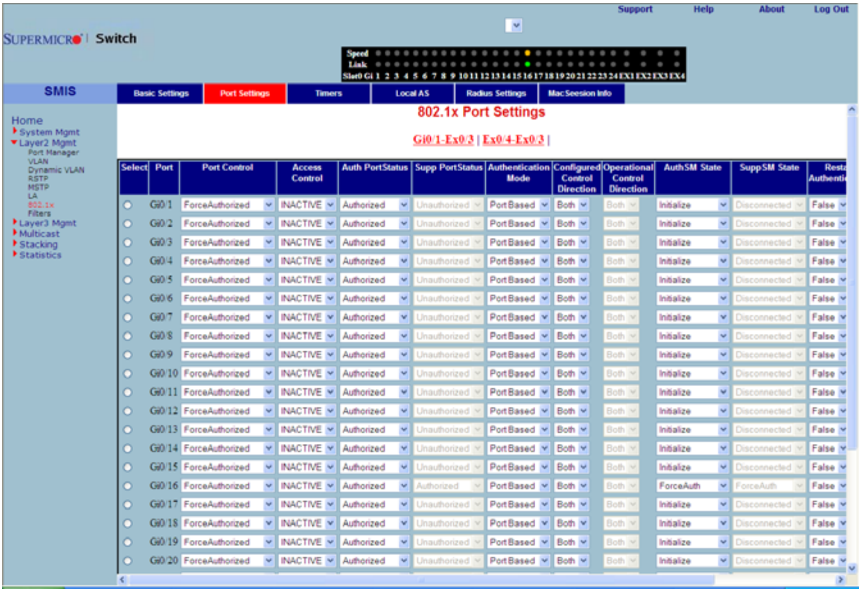
Clicking on the BASIC SETTINGS tab brings up the 802.1X BASIC SETTINGS page (Figure 7-71). Table 7-50 lists the parameters found on this page.

Table 7-50. 802.1x Basic Settings Page Parameters

Parameter	Description
System Control	Starts or Shutsdown 802.1x in the switch.
802.1x Authentication	Allows you to **Enable**/**Disable** the 802.1x based port security feature in the switch.
Authentication Mode	Specifies the Authentication Server Location as **Remote** or **Local**.
Network Access Server ID	Specifies the Authenticator ID, which originates the Access-Request Packets.
Protocol Version	Specifies the Version Number of the Protocol.

Port Settings

Figure 7-72. 802.1x Port Settings Page



802.1x Port Settings

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port	Port Control	Access Control	Auth PortStatus	Supp PortStatus	Authentication Mode	Configured Control Direction	Operational Control Direction	AuthSM State	SuppSM State	Resta Authenti
○	Gi0/1	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/2	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/3	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/4	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/5	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/6	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/7	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/8	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/9	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/10	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/11	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/12	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/13	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/14	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/15	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/16	ForceAuthorized	INACTIVE	Authorized	Authorized	PortBased	Both	Both	ForceAuth	ForceAuth	False
○	Gi0/17	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/18	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/19	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False
○	Gi0/20	ForceAuthorized	INACTIVE	Authorized	Unauthorized	PortBased	Both	Both	Initialize	Disconnected	False

Clicking on the PORT SETTINGS tab brings up the 802.1X PORT SETTINGS page (Figure 7-72). This page helps you to configure the security information at the individual port levels. Table 7-51 lists the parameters found on this page.

Table 7-51. 802.1x Port Settings Page Parameters

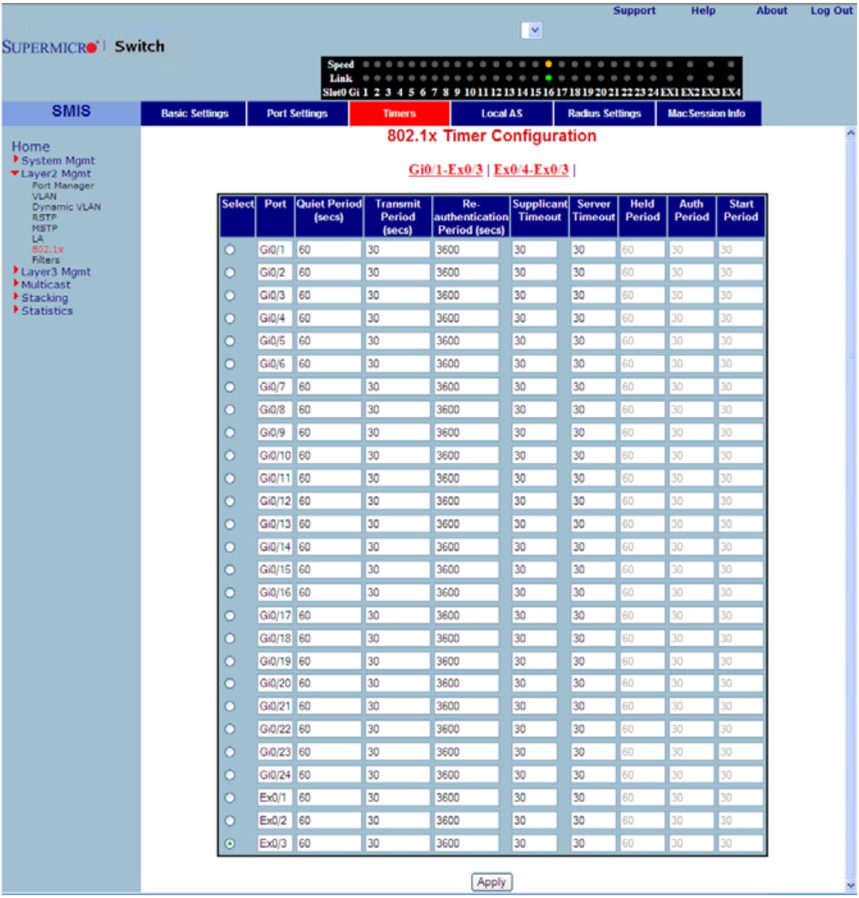
Parameter	**Description**
Port	Specifies the index of the port for which fields such as Port Control, Port Authorization status, etc are configured.
Port Control	Specifies the control values of the Authenticator Port. The control values can be • **Force Authorize** - Allows all the traffic through this port. • **Force Unauthorize** - Blocks all the traffic through this port. • **Auto** - Imposes 802.1x authentication process in this port.
Access Control	Specifies the Access Control for the Port as **Active** or **Inactive**.
Auth Port Status	Specifies the current status of the Authenticator Port either as **Authorized** or **Un-Authorized**.
Supp Port Status	Specifies the current status of the Supplicant Port either as **Authorized** or **Un-Authorized**.
Authentication Mode	Specifies the configuration for selecting the authentication mode to be either **Port Based** or **MAC based**.

Table 7-51. 802.1x Port Settings Page Parameters (Continued)

Parameter	Description
Configured Control Direction	Specifies whether security is to be imposed for • **In** - For only the incoming traffic • **Both** - For both the incoming and outgoing traffic
Operational Control Direction	Specifies the current security status.
Auth SM State	Specifies the state of the Authenticator State Machine.
SuppSMState	Specifies the state of the Supplicant State Machine.
Restart Authentication	Specifies the initialization control for the Port to restart authentication. Setting this value to **True** causes the Port to be initialized. The value reverts to **False** once initialization is complete.
Authentication Retry Count	Specifies the maximum number of authentication requests that can be sent from the authenticator before getting response from the supplicant.
Reauth	Provides configuration to allow you to **Enable**/**Disable** the re-authentication mechanism on the port.

Timers

Figure 7-73. 802.1x Timer Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Timers
Local AS
Radius Settings
Mac Session Info
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Apply

802.1x Timer Configuration

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Select	Port	Quiet Period (secs)	Transmit Period (secs)	Re-authentication Period (secs)	Supplicant Timeout	Server Timeout	Held Period	Auth Period	Start Period
○	Gi0/1	60	30	3600	30	30	60	30	30
○	Gi0/2	60	30	3600	30	30	60	30	30
○	Gi0/3	60	30	3600	30	30	60	30	30
○	Gi0/4	60	30	3600	30	30	60	30	30
○	Gi0/5	60	30	3600	30	30	60	30	30
○	Gi0/6	60	30	3600	30	30	60	30	30
○	Gi0/7	60	30	3600	30	30	60	30	30
○	Gi0/8	60	30	3600	30	30	60	30	30
○	Gi0/9	60	30	3600	30	30	60	30	30
○	Gi0/10	60	30	3600	30	30	60	30	30
○	Gi0/11	60	30	3600	30	30	60	30	30
○	Gi0/12	60	30	3600	30	30	60	30	30
○	Gi0/13	60	30	3600	30	30	60	30	30
○	Gi0/14	60	30	3600	30	30	60	30	30
○	Gi0/15	60	30	3600	30	30	60	30	30
○	Gi0/16	60	30	3600	30	30	60	30	30
○	Gi0/17	60	30	3600	30	30	60	30	30
○	Gi0/18	60	30	3600	30	30	60	30	30
○	Gi0/19	60	30	3600	30	30	60	30	30
○	Gi0/20	60	30	3600	30	30	60	30	30
○	Gi0/21	60	30	3600	30	30	60	30	30
○	Gi0/22	60	30	3600	30	30	60	30	30
○	Gi0/23	60	30	3600	30	30	60	30	30
○	Gi0/24	60	30	3600	30	30	60	30	30
○	Ex0/1	60	30	3600	30	30	60	30	30
○	Ex0/2	60	30	3600	30	30	60	30	30
●	Ex0/3	60	30	3600	30	30	60	30	30

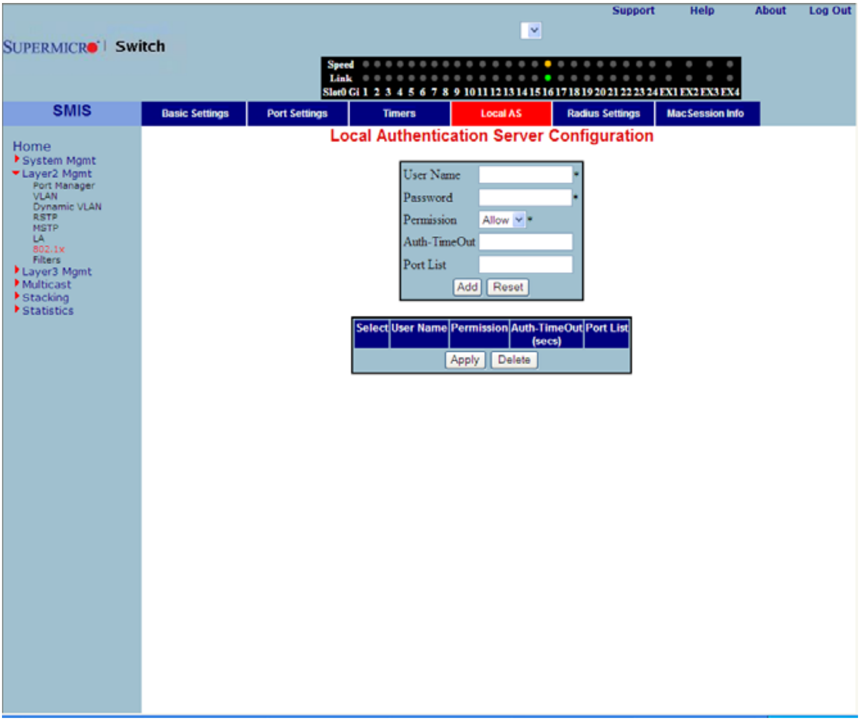
Clicking on the TIMERS tab brings up the 802.1X TIMER CONFIGURATION page (Figure 7-73). This page helps you to configure the Timer parameters at the individual port level. Table 7-52 lists the parameters found on this page.

Table 7-52. 802.1x Timer Configuration Page Parameters

Parameter	**Description**
Port	Index of the port for which fields such as Quiet Period, Transmit Period, and so on are configured.
Quiet Period (Secs)	Specifies the duration for which the authenticator will be silent and will not attempt to acquire a supplicant. It can be configured to any value in the range from **1** to **65535** seconds.
Transmit Period (Secs)	Specifies the Time Period used by the Authenticator State machine to define when the EAPOL PDU is to be transmitted. It can be configured to any value in the range from **1** to **65535** seconds.
Re-authentication Period (Secs)	Specifies the time between periodic re-authentication of the supplicant.
Supplicant Timeout	Specifies the amount of time the switch waits for a response before retransmitting the request to the client, when relaying a request from the authentication server to the client.
Server Timeout	Specifies the amount of time the switch waits for a reply before retransmitting the response to the server, when relaying a response from the client to the authentication server.
Held Period	Specifies the amount of time the client will wait before re-attempting a failed 802.1X authentication. Default value is **60**.
Auth Period	Specifies the time interval for resending 802.1X request messages after not receiving a response.
Start Period	Specifies the time interval for resending Start messages.

Local AS

Figure 7-74. Local Authentication Server Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Timers
Local AS
Radius Settings
MacSession Info
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset
Apply
Delete

Local Authentication Server Configuration

User Name *
Password *
Permission Allow *
Auth-TimeOut
Port List

Select	User Name	Permission	Auth-TimeOut (secs)	Port List

Clicking on the LOCAL AS tab brings up the LOCAL AUTHENTICATION SERVER CONFIGURATION page (Figure 7-74). This page helps you to configure the Local Authentication Server information. Table 7-53 lists the parameters found on this page.

Table 7-53. Load Authentication Server Configuration Page Parameters

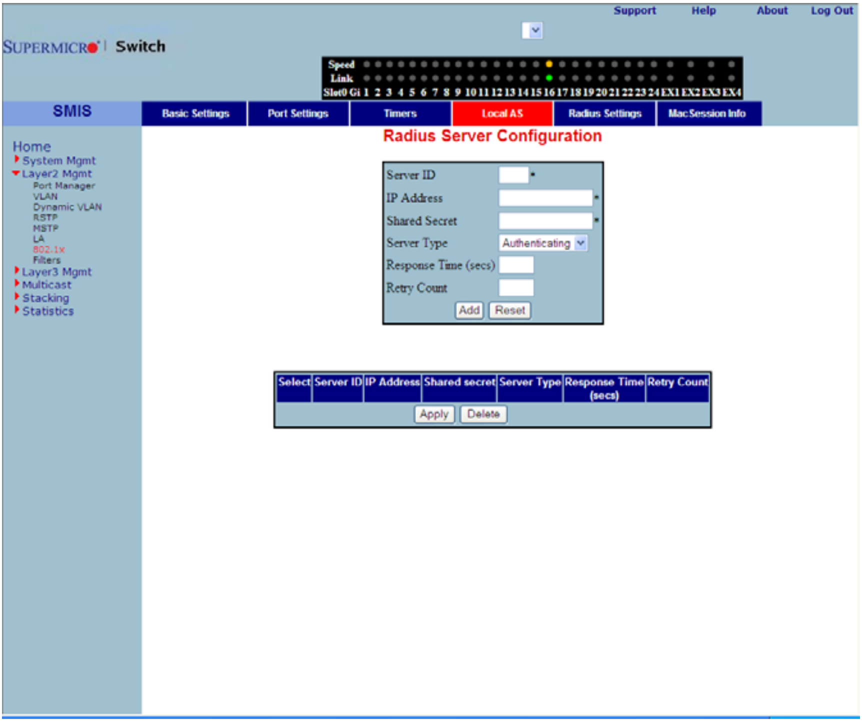
Parameter	Description
User Name	Specifies the identity of the user, seeking authentication. A string of not more than 20 printable characters.
Password	Specifies the password specific to the user name. A string of not more than 20 printable characters.
Permission	Represents the allowance and denial of access. The values that can be configured are: • **Allow** – When set, the authentication request is allowed over the set of ports in the Port List. • **Deny** – When se, the authentication request is NOT allowed over the set of ports in the Port List.

Table 7-53. Load Authentication Server Configuration Page Parameters (Continued)

Parameter	Description
Auth-TimeOut (secs)	Specifies the Authentication Timeout in seconds.
Port List	Represents the complete set of ports of the authenticator to which the user is allowed or denied access, based on permission.

Radius Settings

Figure 7-75. Radius Server Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Timers
Local AS
Radius Settings
Mac Session Info
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset
Apply
Delete

Radius Server Configuration

Server ID	*
IP Address	*
Shared Secret	*
Server Type	Authenticating
Response Time (secs)	
Retry Count	

Select	Server ID	IP Address	Shared secret	Server Type	Response Time (secs)	Retry Count

Clicking on the RADIUS SETTINGS tab brings up the RADIUS SERVER CONFIGURATION page (Figure 7-75). This page helps you to configure the Radius Server information. Table 7-54 lists the parameters found on this page.

Table 7-54. Radius Server Configuration Page Parameters

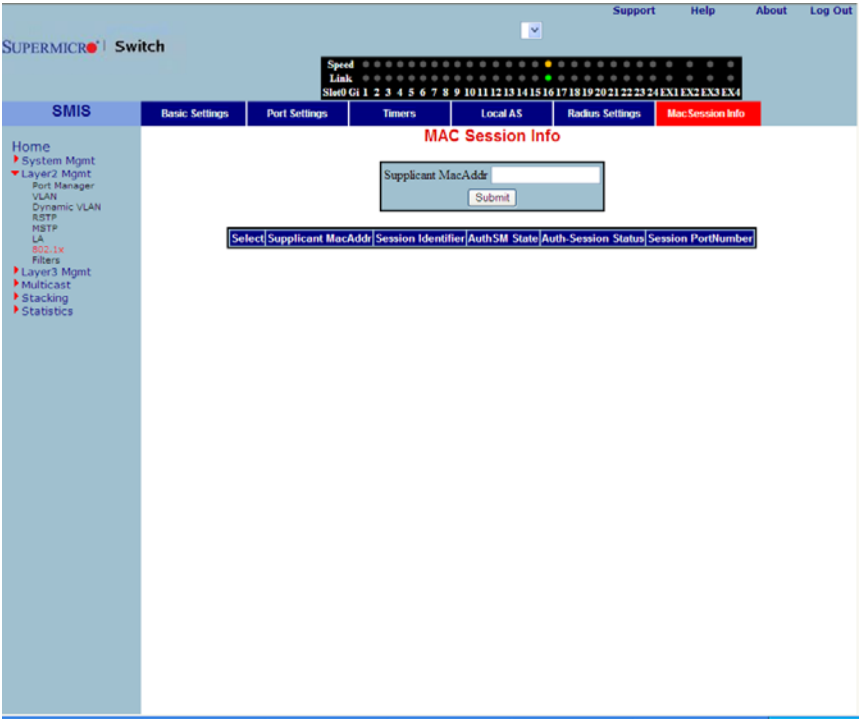
Parameter	Description
Server ID	Specifies the unique identifier of the Radius Server Entry.
IP Address	Specifies the IP Address of the Radius Server.

Table 7-54. Radius Server Configuration Page Parameters (Continued)

Parameter	Description
Shared Secret	Specifies the secret string, which is to be shared between the Radius Server and the Radius Client.
Server Type	Specifies the following RADIUS server type • Authentication • Accounting • Both (Authentication and Accounting)
Response Time (Secs)	Specifies the maximum time within which the Radius Server has to respond for a request from the Radius Client.
Retry Count	Specifies the maximum number of times a radius request is to be re-transmitted before getting response the Radius Server.

MAC Session Info

Figure 7-76. MAC Session Info Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Port Settings
Timers
Local AS
Radius Settings
MacSession Info
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
MAC Session Info
Supplicant MacAddr
Submit
Select
Supplicant MacAddr
Session Identifier
AuthSM State
Auth-Session Status
Session PortNumber

Clicking on the MACSession Info tab brings up the MAC Session Info page (Figure 7-76). This page displays the MAC Session information details. Table 7-55 lists the parameters found on this page.

Table 7-55. IMAC Session Info Page Parameters

Parameter	Description
Supplicant MacAddr	Specifies the Supplicant MAC Address.
Session Identifier	Specifies the Session Identifier.
AuthSM State	Specifies the state of the Authenticator State Machine.
Auth Session Status	Specifies the Authentication Session Status.
Session PortNumber	Specifies the port number through which a particular Session MAC address is learnt.

Filters

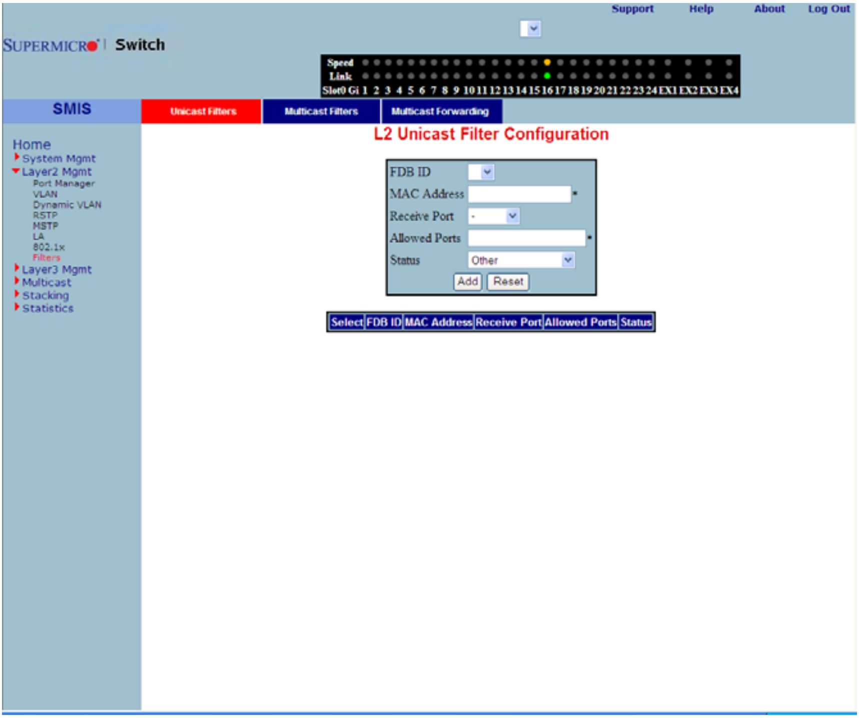
The FILTERS link allows you to configure Layer 2 packet filtering. The Layer 2 packet filtering management has the following control tabs:

- Unicast Filters
- Multicast Filters
- Multicast Forwarding

By default, the UNICAST FILTER tab is loaded.

Unicast Filters

Figure 7-77. L2 Unicast Filter Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Unicast Filters
Multicast Filters
Multicast Forwarding
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
L2 Unicast Filter Configuration
FDB ID
MAC Address
Receive Port
Allowed Ports
Status
Add
Reset
Select
FDB ID
MAC Address
Receive Port
Allowed Ports
Status

Receive Port: -

Status: Other

Clicking on the UNICAST FILTERS tab brings up the L2 UNICAST FILTER CONFIGURATION page (Figure 7-77). Using this page, you can set the filter configuration to control the unicast packets that the switch needs to process. Table 7-56 lists the parameters found on this page.

Table 7-56. L2 Unicast Filter Configuration Page Parameters

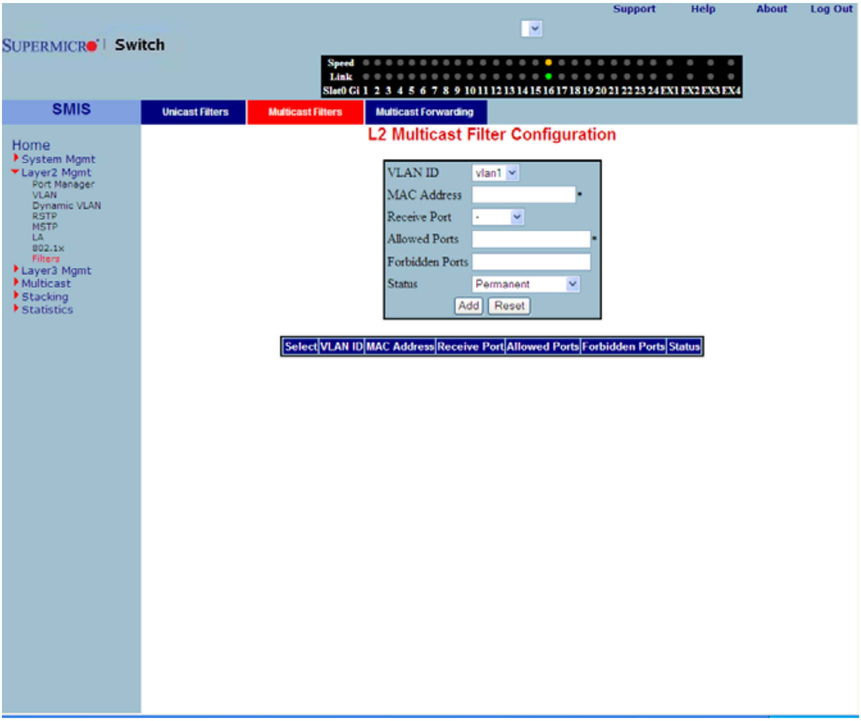
Parameter	Description
FDB (Forwarding Database) ID	Specifies the forwarding database ID.
MAC Address	Specifies the destination MAC address of the received packet.
Receive Port	Specifies the port on which the packet was received.

Table 7-56. L2 Unicast Filter Configuration Page Parameters (Continued)

Parameter	Description
Allowed Ports	Specifies the list of ports on which the received packet (with the above set MAC address and if received from the configured port) can be forwarded.
Status	You can choose to have this configuration in any one of the following types: • **Other** – This configuration is the default currently in use, but the conditions under which it will remain so differ from the following values. • **Permanent** – This configuration resides even after the restart of the switch. • **DeleteOnReset** – This configuration deletes the entry on restart. • **DeleteOnTimeout** – This configuration deletes the entry on expiration of the ageing timer.

Multicast Filters

Figure 7-78. L2 Multicast Filter Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Unicast Filters
Multicast Filters
Multicast Forwarding
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset

L2 Multicast Filter Configuration

VLAN ID: vlan1
MAC Address: *
Receive Port: -
Allowed Ports: *
Forbidden Ports:
Status: Permanent

Select	VLAN ID	MAC Address	Receive Port	Allowed Ports	Forbidden Ports	Status

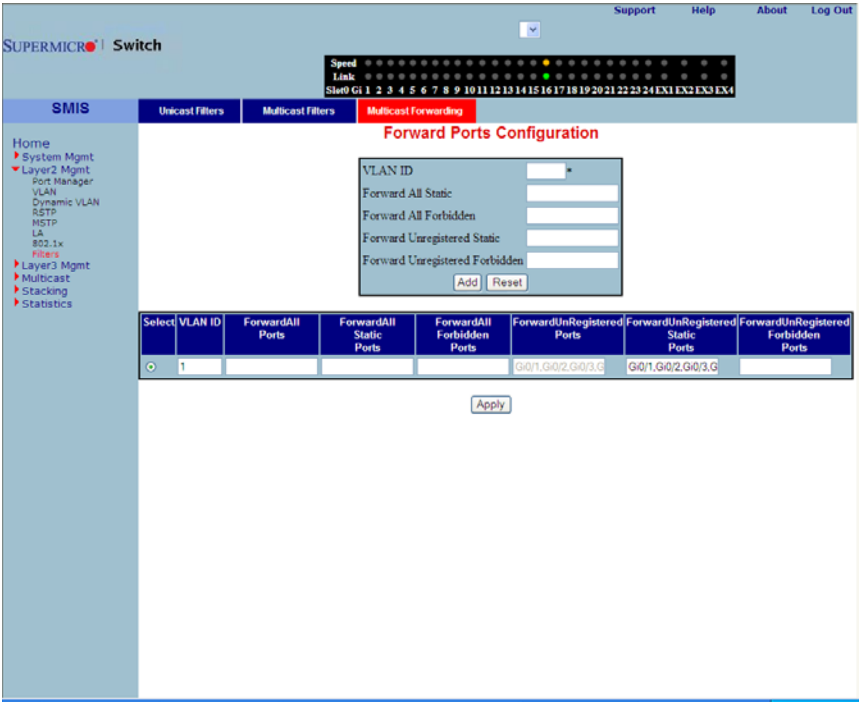
Clicking on the MULTICAST FILTERS tab brings up the L2 MULTICAST FILTER CONFIGURATION page (Figure 7-78). This page allows you to set the filter configuration to control the multicast packets that the switch needs to process. Table 7-57 lists the parameters found on this page.

Table 7-57. L2 Multicast Filter Configuration Page Parameters

Parameter	Description
VLAN ID	Specifies the VLAN ID.
MAC Address	Specifies the destination MAC address of the received packet.
Receive Port	Specifies the port on which the packet was received.
Allowed Ports	Specifies the list of ports on which the received packet (with the above set MAC address and if received from the configured port) can be forwarded.
Forbidden Ports	Specifies the list of ports on which the received packet (with the above set MAC address and if received from the configured port) must NOT be forwarded.
Status	You can choose to have this configuration in any one of the following types: • **Permanent** – This configuration resides even after a restart of the switch. • **DeleteOnReset** – This configuration deletes the entry on a restart. • **DeleteOnTimeout** – This configuration deletes the entry on expiration of the ageing timer.

Multicast Forwarding

Figure 7-79. Forward Ports Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Unicast Filters
Multicast Filters
Multicast Forwarding
Home
System Mgmt
Layer2 Mgmt
Port Manager
VLAN
Dynamic VLAN
RSTP
MSTP
LA
802.1x
Filters
Layer3 Mgmt
Multicast
Stacking
Statistics
Add
Reset
Apply

Forward Ports Configuration

VLAN ID *
Forward All Static
Forward All Forbidden
Forward Unregistered Static
Forward Unregistered Forbidden

Select	VLAN ID	ForwardAll Ports	ForwardAll Static Ports	ForwardAll Forbidden Ports	ForwardUnRegistered Ports	ForwardUnRegistered Static Ports	ForwardUnRegistered Forbidden Ports
●	1				Gi0/1,Gi0/2,Gi0/3,G	Gi0/1,Gi0/2,Gi0/3,G	

Clicking on the MULTICAST FORWARDING tab brings up the FORWARD PORTS CONFIGURATION page (Figure 7-79). This page allows you to set the Ports configuration to allow Multicast Forwarding. Table 7-58 lists the parameters found on this page.

Table 7-58. Forward Ports Configuration Page Parameters

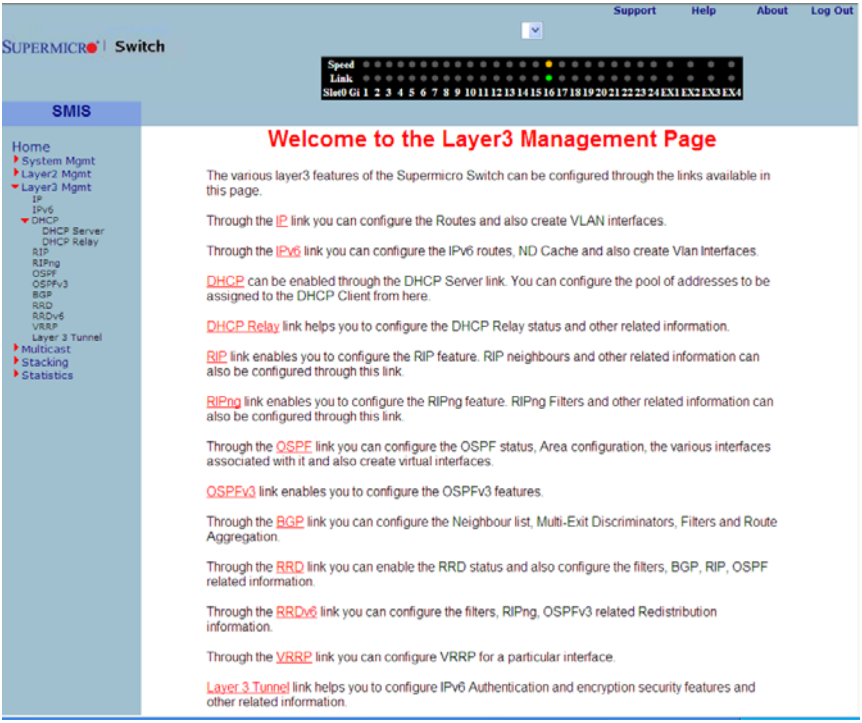
Parameter	Description
VLAN ID	Specifies the VLAN ID.
Forward All Ports	Specifies the forward all static ports as well as forward all learnt ports. This is a read-only field.
Forward Unregistered Ports	Specifies the forwards unregistered static ports as well as forward unregistered learnt ports. This is a read-only field.
Forward All Static Ports	Specifies all the static ports to allow Multicast forwarding.
Forward All Forbidden Ports	Specifies all the forbidden ports to deny Multicast forwarding.

Table 7-58. Forward Ports Configuration Page Parameters (Continued)

Parameter	Description
Forward Unregistered Static Ports	Specifies all the unregistered static ports to allow Multicast forwarding.
Forward Unregistered Forbidden Ports	Specifies all the unregistered forbidden ports to deny Multicast forwarding.

7-6 Layer3 Management Page

Figure 7-80. Layer3 Management Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics

Welcome to the Layer3 Management Page

The various layer3 features of the Supermicro Switch can be configured through the links available in this page.

Through the IP link you can configure the Routes and also create VLAN interfaces.

Through the IPv6 link you can configure the IPv6 routes, ND Cache and also create Vlan Interfaces.

DHCP can be enabled through the DHCP Server link. You can configure the pool of addresses to be assigned to the DHCP Client from here.

DHCP Relay link helps you to configure the DHCP Relay status and other related information.

RIP link enables you to configure the RIP feature. RIP neighbours and other related information can also be configured through this link.

RIPng link enables you to configure the RIPng feature. RIPng Filters and other related information can also be configured through this link.

Through the OSPF link you can configure the OSPF status, Area configuration, the various interfaces associated with it and also create virtual interfaces.

OSPFv3 link enables you to configure the OSPFv3 features.

Through the BGP link you can configure the Neighbour list, Multi-Exit Discriminators, Filters and Route Aggregation.

Through the RRD link you can enable the RRD status and also configure the filters, BGP, RIP, OSPF related information.

Through the RRDv6 link you can configure the filters, RIPng, OSPFv3 related Redistribution information.

Through the VRRP link you can configure VRRP for a particular interface.

Layer 3 Tunnel link helps you to configure IPv6 Authentication and encryption security features and other related information.

Clicking the LAYER-3 MANAGEMENT link on the navigation bar of the HOME page opens the LAYER 3 MANAGEMENT page (Figure 7-80).

The LAYER 3 MANAGEMENT page has links to the following configuration pages:

- IP
- IPv6
- DHCP Server
- DHCP Relay
- RIP
- RIPng
- OSPF
- OSPFv3
- BGP
- RRD
- RRDv6
- VRRP
- Layer 3 Tunnel

IP

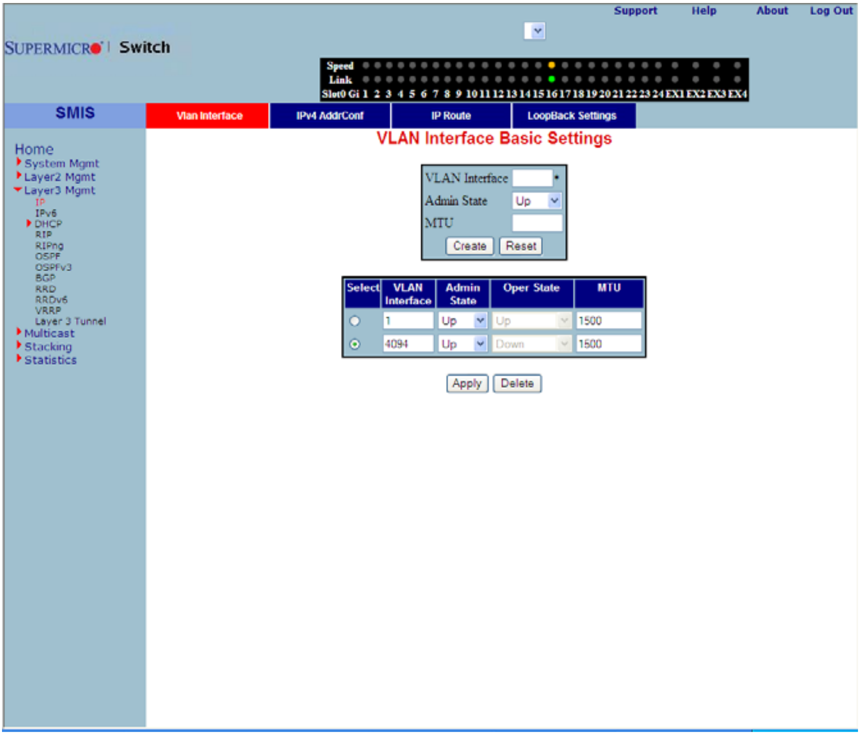
The IP link enables to perform the IP related configuration. This can be done through the following pages.

- VLAN Interface
- IPv4 AddrConf
- IP Route
- LoopBack Settings

By default, the VLAN INTERFACE tab is loaded.

VLAN Interface

Figure 7-81. VLAN Interface Basic Settings Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Vlan Interface
IPv4 AddrConf
IP Route
LoopBack Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Create
Reset
Apply
Delete

VLAN Interface Basic Settings

VLAN Interface *
Admin State: Up
MTU

Select	VLAN Interface	Admin State	Oper State	MTU
○	1	Up	Up	1500
●	4094	Up	Down	1500

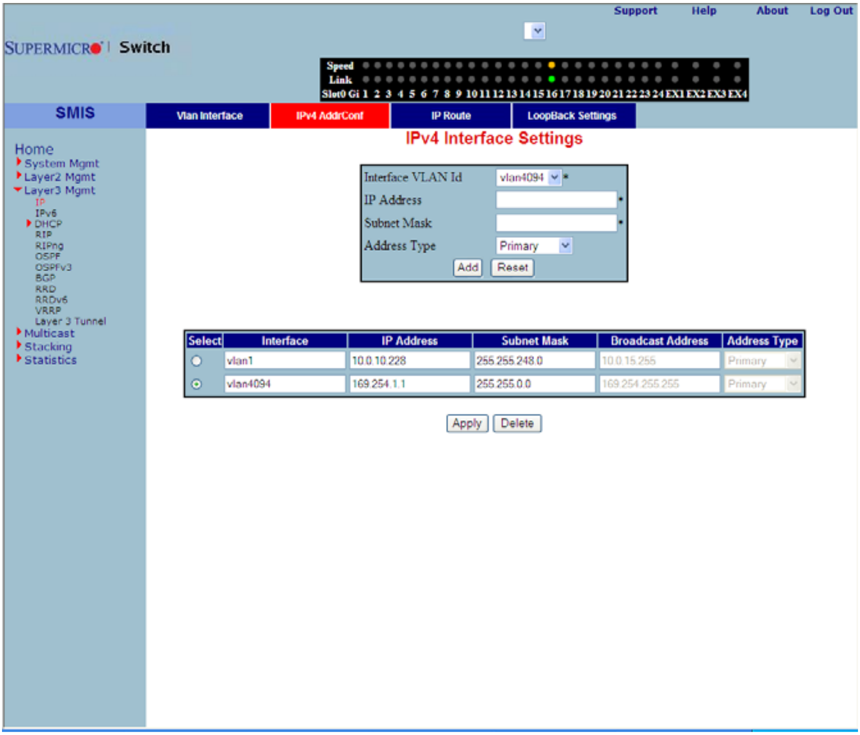
Clicking on the VLAN INTERFACE tab brings up the VLAN INTERFACE BASIC SETTINGS page (Figure 7-81). Table 7-59 lists the parameters found on this page.

Table 7-59. VLAN Interface Basic Settings Page Parameters

Parameter	Description
VLAN Interface	Specifies the VLAN ID that is to be created.
Admin State	Specifies the Admin Status of the VLAN interface.
Oper State	Specifies the Operational Status of the VLAN interface. This is a read-only field.
MTU	Specifies the Maximum Transmission Unit for the switch.

IPv4 AddrConf

Figure 7-82. IPv4 Interface Settings Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Vlan Interface
IPv4 AddrConf
IP Route
LoopBack Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add
Reset
Apply
Delete

IPv4 Interface Settings

Interface VLAN Id	vlan4094 *
IP Address	*
Subnet Mask	*
Address Type	Primary

Select	Interface	IP Address	Subnet Mask	Broadcast Address	Address Type
○	vlan1	10.0.10.228	255.255.248.0	10.0.15.255	Primary
●	vlan4094	169.254.1.1	255.255.0.0	169.254.255.255	Primary

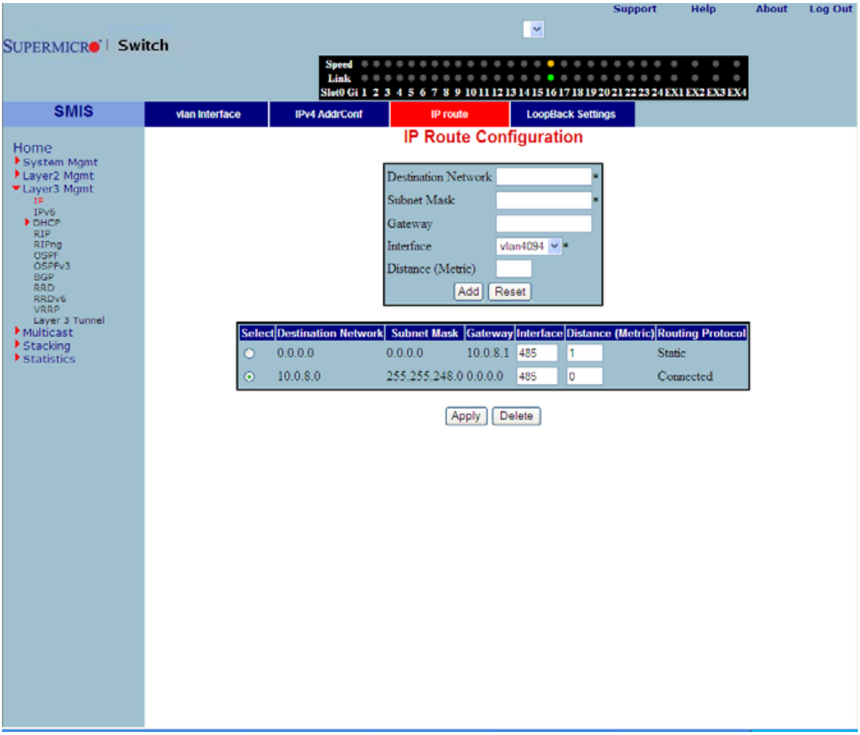
Clicking on the IPv4 AddrConf tab brings up the IPv4 Interface Settings page (Figure 7-82). Table 7-60 lists the parameters found on this page.

Table 7-60. IPv4 Interface Settings Page Parameters

Parameter	Description
Interface VLAN ID	Specifies the Index of the VLAN interface.
IP Address	Specifies the IP Address of the specified interface.
Subnet Mask	Indicates Subnet Mask for the specified IP Address.
Broadcast Address	Specifies the Broadcast address for the specified IP address. This is a read-only field.
Address Type	Specifies the type of address, which can be **Primary** or **Secondary**.

IP Route

Figure 7-83. IP Route Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
vlan Interface
IPv4 AddrConf
IP route
LoopBack Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
IP Route Configuration
Add
Reset
Apply
Delete

Destination Network *
Subnet Mask *
Gateway
Interface vlan4094 *
Distance (Metric)

Select	Destination Network	Subnet Mask	Gateway	Interface	Distance (Metric)	Routing Protocol
○	0.0.0.0	0.0.0.0	10.0.8.1	485	1	Static
●	10.0.8.0	255.255.248.0	0.0.0.0	485	0	Connected

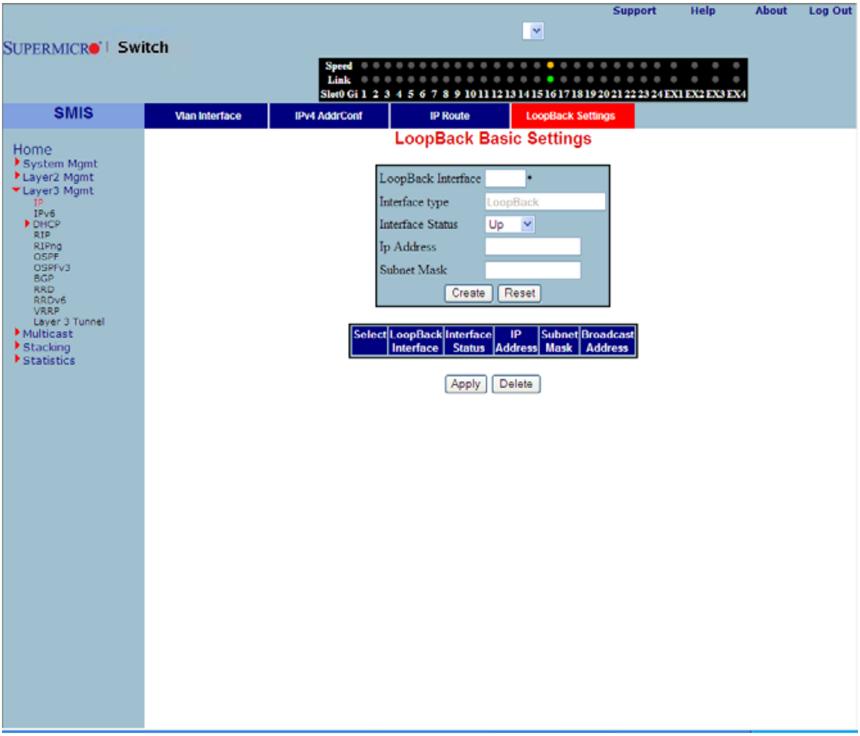
Clicking on the IP ROUTE tab brings up the IP ROUTE CONFIGURATION page (Figure 7-83). Table 7-61 lists the parameters found on this page.

Table 7-61. IP Route Configuration Page Parameters

Parameter	Description
Destination Network	Specifies the Network Address for which the route is being added.
Subnet Mask	Indicates the subnet mask for the Destination Network address.
Gateway	Denotes the Next Hop gateway to reach the Destination Network.
Interface	Specifies the outgoing interface through which the Destination Network is reachable.
Distance (Metric)	Specifies the Metric value of the destination.
Routing Protocol	Specifies the routing protocol through which the route was learnt, if the route is not a directly connected network or a static route. This cannot be configured.

LoopBack Settings

Figure 7-84. LoopBack Basic Settings Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Vlan Interface
IPv4 AddrConf
IP Route
LoopBack Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Create
Reset
Apply
Delete

LoopBack Basic Settings

LoopBack Interface *
Interface type: LoopBack
Interface Status: Up
Ip Address
Subnet Mask

Select	LoopBack Interface	Interface Status	IP Address	Subnet Mask	Broadcast Address

Clicking on the LoopBack Settings tab brings up the LoopBack Basic Settings page (Figure 7-84). Table 7-62 lists the parameters found on this page.

Table 7-62. LoopBack Basic Settings Page Parameters

Parameter	Description
LoopBack Interface	Specifies the Loopback Interface that is to be created.
Interface Type	Specifies the interface type as Loopback (this field is not configurable).
Interface Status	Specifies the Interface Status.
IP Address	Specifies the IP Address for the Loopback interface.
Subnet Mask	Specifies the Subnet mask for the given IP Address.
Broadcast Address	Specifies the Broadcast address for the specified IP address. This is a read-only field.

IPv6

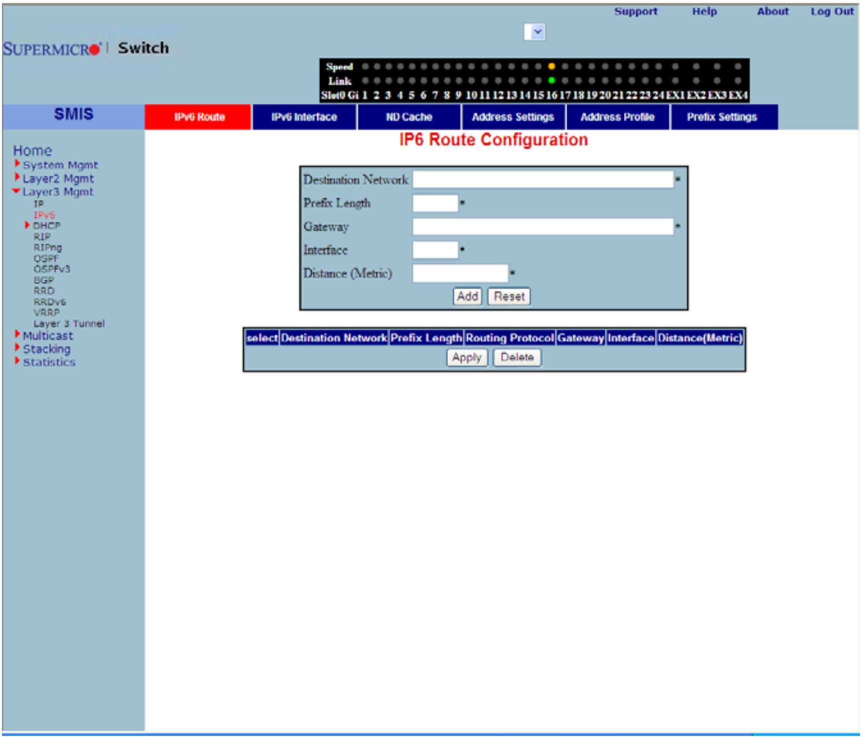
The IPV6 link allows you to perform an IPv6 related configuration. This can be accomplished through the following six control tabs:

- IPv6 Route
- IPv6 Interface
- ND Cache
- Address Settings
- Address Profile
- Prefix Settings

The IPV6 ROUTE tab is loaded as the default.

IPv6 Route

Figure 7-85. IP6 Route Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Route
IPv6 Interface
ND Cache
Address Settings
Address Profile
Prefix Settings
IP6 Route Configuration
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Destination Network
Prefix Length
Gateway
Interface
Distance (Metric)
Add
Reset
select
Destination Network
Prefix Length
Routing Protocol
Gateway
Interface
Distance(Metric)
Apply
Delete

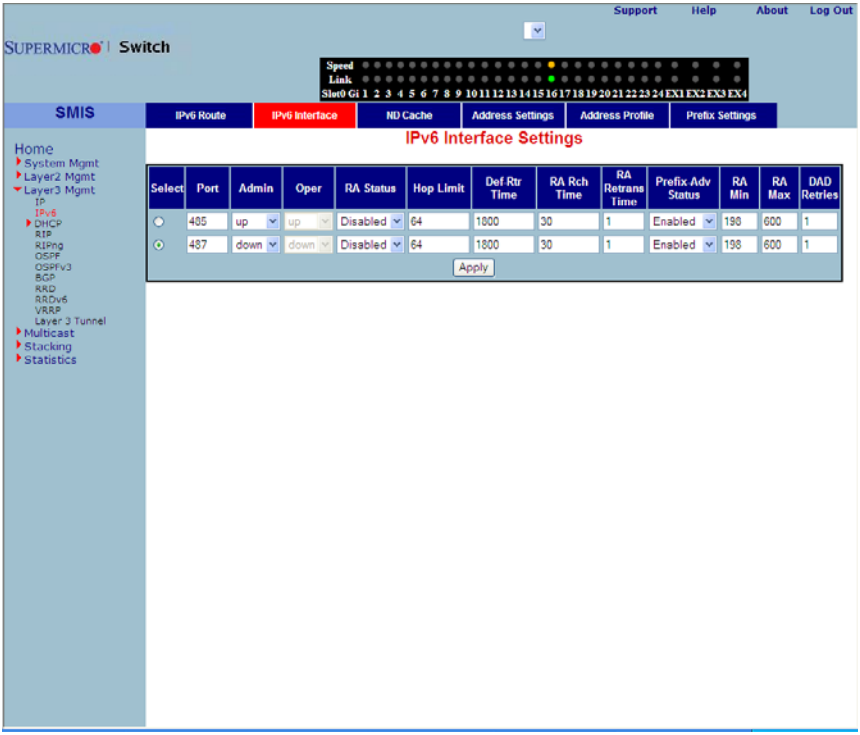
Clicking on the IPV6 ROUTE tab opens IP6 ROUTE CONFIGURATION page (Figure 7-85). The IPv6 route can be configured through the parameters shown in Table 7-63.

Table 7-63. IP6 Route Page Parameters

Parameter	Description
Destination Network	Specifies the Network Address for which the IPv6 route is being added.
Prefix Length	Specifies the subnet mask for the Destination Network address.
Routing Protocol	Indicates the routing protocol through which the route was learnt, if not manual. This cannot be configured.
Gateway	Specifies the Next Hop gateway to reach the IP address.
Interface	Indicates the outgoing interface.
Distance (Metric)	Denotes Metric value of the destination.

IPv6 Interface

Figure 7-86. IPv6 Interface Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Route
IPv6 Interface
ND Cache
Address Settings
Address Profile
Prefix Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

IPv6 Interface Settings

Select	Port	Admin	Oper	RA Status	Hop Limit	Def Rtr Time	RA Rch Time	RA Retrans Time	Prefix Adv Status	RA Min	RA Max	DAD Retries
○	485	up	up	Disabled	64	1800	30	1	Enabled	198	600	1
●	487	down	down	Disabled	64	1800	30	1	Enabled	198	600	1

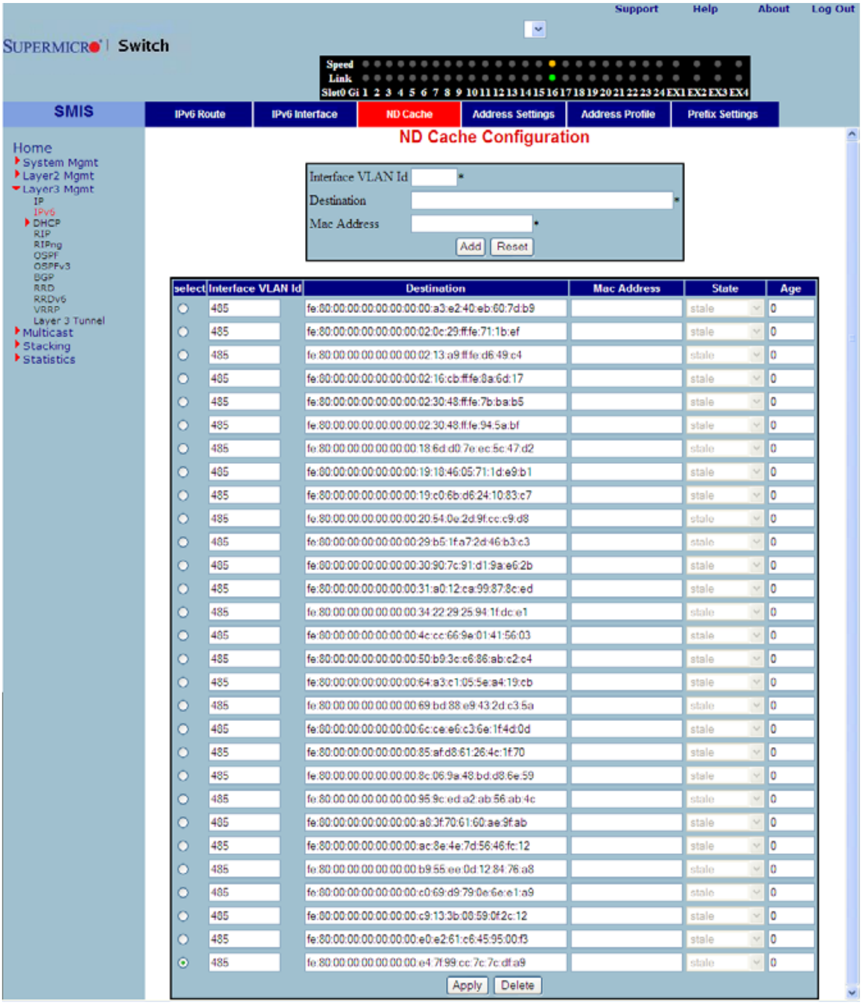
Clicking on the IPV6 INTERFACE tab opens the IPV6 INTERFACE SETTINGS page (Figure 7-86). Table 7-64 list the parameters this page displays.

Table 7-64. IPv6 Interface Settings Page Parameters

Parameter	Description
Port	Specifies the Index of the VLAN interface.
Admin	Indicates the Administrative Status of IPv6 on the Interface.
Oper	Specifies the Operational Status of IPv6 on the given Interface. This is a read-only field.
RA Status	Indicates the Router Advertisement status on the Interface.
Hop Limit	Denotes the Hop Limit value to be placed in the Router Advertisements sent on the Interface.
Def-Rtr Time	Specifies the Default router lifetime to be placed in the Router Advertisements sent on the interface.
RA Rch Time	Indicates the Reachable time to be placed in the Router Advertisements sent on the interface.
RA Retrans Time	Specifies the RA Retransmit time to be placed in the Router Advertisement sent on the interface.
Prefix-Adv Status	Specifies the Prefix Advertisement status on the Interface.
RA Min	Specifies the minimum time (in seconds) allowed between sending unsolicited router advertisements.
RA Max	Indicates the maximum time (in seconds) allowed between sending unsolicited router advertisements.
DAD Retries	Specifies the maximum number of Duplicate Address Detection retries.

ND Cache

Figure 7-87. ND Cache Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Route
IPv6 Interface
ND Cache
Address Settings
Address Profile
Prefix Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics

ND Cache Configuration

Interface VLAN Id *
Destination *
Mac Address *

Add Reset

select	Interface VLAN Id	Destination	Mac Address	State	Age
○	485	fe:80:00:00:00:00:00:00:a3:e2:40:eb:60:7d:b9		stale	0
○	485	fe:80:00:00:00:00:00:02:0c:29:ff:fe:71:1b:ef		stale	0
○	485	fe:80:00:00:00:00:00:02:13:a9:ff:fe:d6:49:c4		stale	0
○	485	fe:80:00:00:00:00:00:02:16:cb:ff:fe:8a:6d:17		stale	0
○	485	fe:80:00:00:00:00:00:02:30:48:ff:fe:7b:ba:b5		stale	0
○	485	fe:80:00:00:00:00:00:02:30:48:ff:fe:94:5a:bf		stale	0
○	485	fe:80:00:00:00:00:00:18:6d:d0:7e:ec:5c:47:d2		stale	0
○	485	fe:80:00:00:00:00:00:19:18:46:05:71:1d:e9:b1		stale	0
○	485	fe:80:00:00:00:00:00:19:c0:6b:d6:24:10:83:c7		stale	0
○	485	fe:80:00:00:00:00:00:20:54:0e:2d:9f:cc:c9:d8		stale	0
○	485	fe:80:00:00:00:00:00:29:b5:1f:a7:2d:46:b3:c3		stale	0
○	485	fe:80:00:00:00:00:00:30:90:7c:91:d1:9a:e6:2b		stale	0
○	485	fe:80:00:00:00:00:00:31:a0:12:ca:99:87:8c:ed		stale	0
○	485	fe:80:00:00:00:00:00:34:22:29:25:94:1f:dc:e1		stale	0
○	485	fe:80:00:00:00:00:00:4c:cc:66:9e:01:41:56:03		stale	0
○	485	fe:80:00:00:00:00:00:50:b9:3c:c6:86:ab:c2:c4		stale	0
○	485	fe:80:00:00:00:00:00:64:a3:c1:05:5e:a4:19:cb		stale	0
○	485	fe:80:00:00:00:00:00:69:bd:88:e9:43:2d:c3:5a		stale	0
○	485	fe:80:00:00:00:00:00:6c:ce:e6:c3:6e:1f:4d:0d		stale	0
○	485	fe:80:00:00:00:00:00:85:af:d8:61:26:4c:1f:70		stale	0
○	485	fe:80:00:00:00:00:00:8c:06:9a:48:bd:d8:6e:59		stale	0
○	485	fe:80:00:00:00:00:00:95:9c:ed:a2:ab:56:ab:4c		stale	0
○	485	fe:80:00:00:00:00:00:a8:3f:70:61:60:ae:9f:ab		stale	0
○	485	fe:80:00:00:00:00:00:ac:8e:4e:7d:56:46:fc:12		stale	0
○	485	fe:80:00:00:00:00:00:b9:55:ee:0d:12:84:76:a8		stale	0
○	485	fe:80:00:00:00:00:00:c0:69:d9:79:0e:6e:e1:a9		stale	0
○	485	fe:80:00:00:00:00:00:c9:13:3b:08:59:0f:2c:12		stale	0
○	485	fe:80:00:00:00:00:00:e0:e2:61:c6:45:95:00:f3		stale	0
●	485	fe:80:00:00:00:00:00:e4:7f:99:cc:7c:7c:df:a9		stale	0

Apply Delete

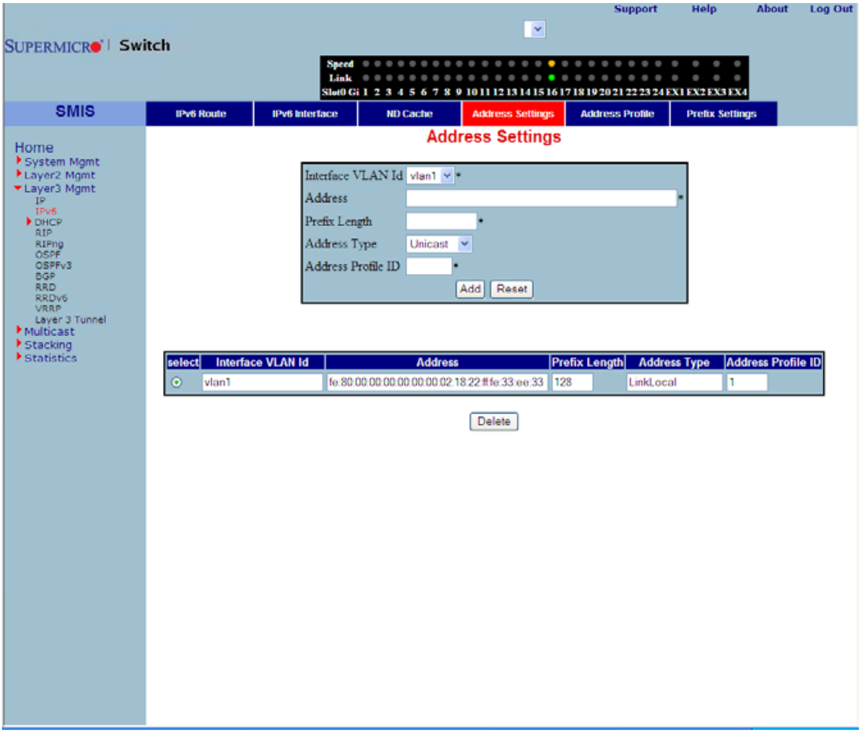
Clicking on the ND CACHE tab opens the ND CACHE CONFIGURATION page (Figure 7-87). Table 7-65 lists the configurable parameters for this page.

Table 7-65. ND Cache Page Parameters

Parameter	Description
Interface VLAN ID	Indicates Index of the VLAN interface.
Destination	Specifies Destination IPv6 Address.
MAC (Media Access Control) Address	Denotes the Physical address of the Destination address.
State	Indicates the Reach ability state of the entry. This is a read-only field.
Age	Specifies the Age time.

Address Settings

Figure 7-88. Address Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Route
IPv6 Interface
ND Cache
Address Settings
Address Profile
Prefix Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Address Settings
Add
Reset
Delete

Interface VLAN Id: vlan1 *
Address: *
Prefix Length: *
Address Type: Unicast
Address Profile ID: *

select	Interface VLAN Id	Address	Prefix Length	Address Type	Address Profile ID
●	vlan1	fe:80:00:00:00:00:00:00:02:18:22:ff:fe:33:ee:33	128	LinkLocal	1

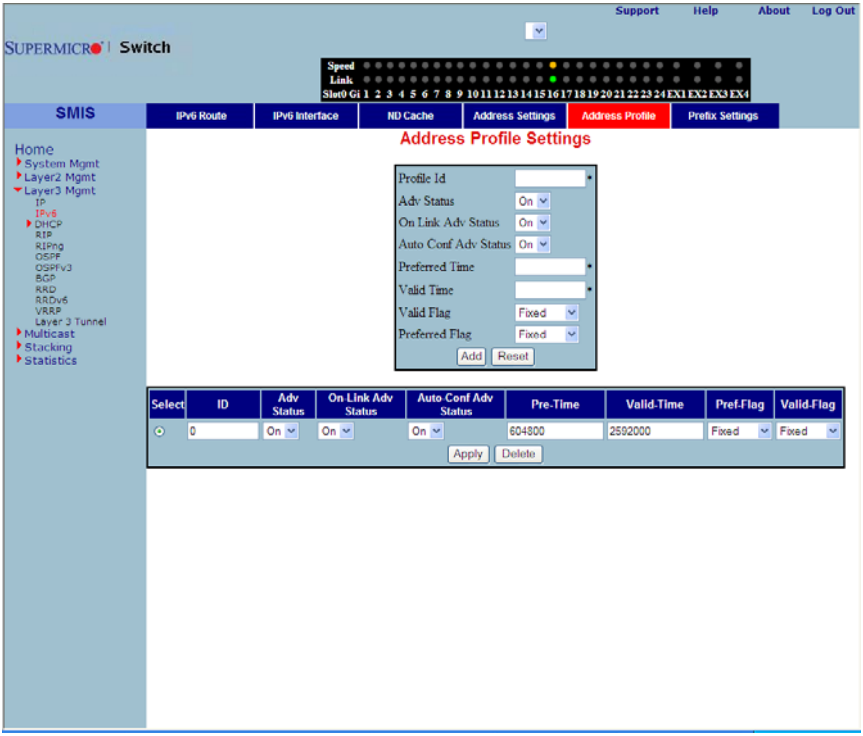
Clicking on the ADDRESS SETTINGS tab opens the ADDRESS SETTINGS page (Figure 7-88). Table 7-66 lists this page’s parameters.

Table 7-66. Address Settings page Parameters

Parameter	**Description**
Interface VLAN ID	Specifies Index of the VLAN Interface.
Address	Specifies the IPv6 Address.
Prefix Length	Indicates the length of the prefix (in bits) associated with this entry's IPv6 address.
Address Type	Specifies the type of address, which can be **Link-local**, **Global-unicast** or **Anycast**.
Address Profile ID	Indicates the Index to the IPv6 address profile table.

Address Profile

Figure 7-89. Address Profile Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Route
IPv6 Interface
ND Cache
Address Settings
Address Profile
Prefix Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add
Reset
Apply
Delete

Address Profile Settings

Profile Id	*
Adv Status	On
On Link Adv Status	On
Auto Conf Adv Status	On
Preferred Time	*
Valid Time	*
Valid Flag	Fixed
Preferred Flag	Fixed

Select	ID	Adv Status	On-Link Adv Status	Auto-Conf Adv Status	Pre-Time	Valid-Time	Pref-Flag	Valid-Flag
●	0	On	On	On	604800	2592000	Fixed	Fixed

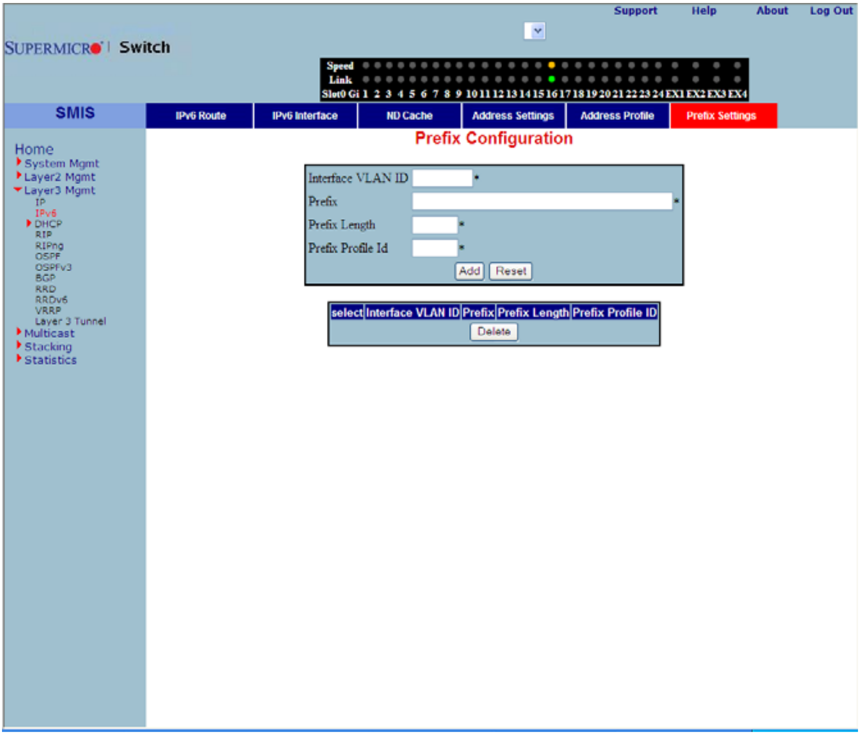
Clicking on the Address Profile tab opens the Address Profile Settings page (Figure 7-89). Table 7-67 lists the parameters on this page.

Table 7-67. Address Profile Settings Page Parameters

Parameter	Description
Profile ID	Specifies Index of the Address profile entry.
Adv Status	Specifies the Prefix advertise status.
On Link Adv Status	Indicates the On-Link Advertise flag status.
Auto Conf Adv Status	Denotes the Autonomous configuration advertise flag status.
Preferred Time	Specifies the Preferred lifetime of the prefix address that uses this profile.
Valid Time	Indicates the Valid lifetime of the prefix address that uses this profile.
Valid Flag	Specifies whether the valid lifetime value is **Variable** or **Fixed**.
Preferred Flag	Specifies whether the preferred lifetime value is **Variable** or **Fixed**.

Prefix Settings

Figure 7-90. Prefix Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Route
IPv6 Interface
ND Cache
Address Settings
Address Profile
Prefix Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Prefix Configuration
Interface VLAN ID *
Prefix *
Prefix Length *
Prefix Profile Id *
Add
Reset
select
Interface VLAN ID
Prefix
Prefix Length
Prefix Profile ID
Delete

Clicking on the PREFIX SETTINGS tab opens the PREFIX CONFIGURATION page (Figure 7-90). Table 7-68 lists the parameters on this page.

Table 7-68. Prefix Configuration Page Parameters

Parameter	Description
Interface VLAN ID	Specifies Index of the VLAN Interface.
Prefix	Indicates the IPv6 address prefix to be advertised in RA.
Prefix Length	Indicates the Prefix length (in bits).
Prefix Profile ID	Specifies Index to the IPv6 address profile table.

DHCP Server

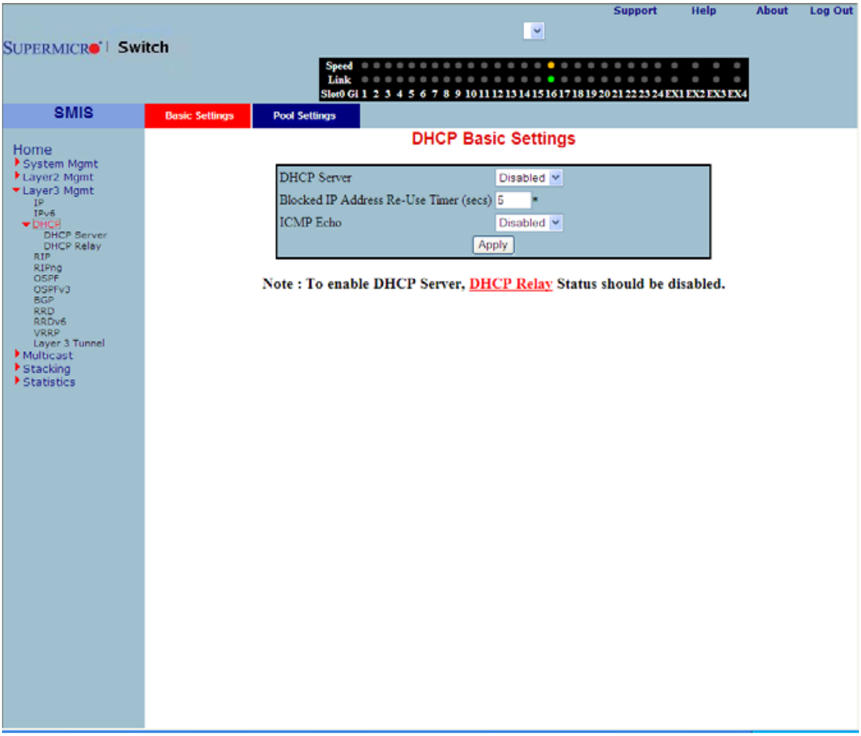
The DHCP SERVER link helps us to manage the DHCP server in the switch through the following two control tabs:

- Basic Settings
- Pool Settings

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-91. DHCP Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Pool Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

DHCP Basic Settings

DHCP Server	Disabled
Blocked IP Address Re-Use Timer (secs)	5 *
ICMP Echo	Disabled

Note : To enable DHCP Server, DHCP Relay Status should be disabled.

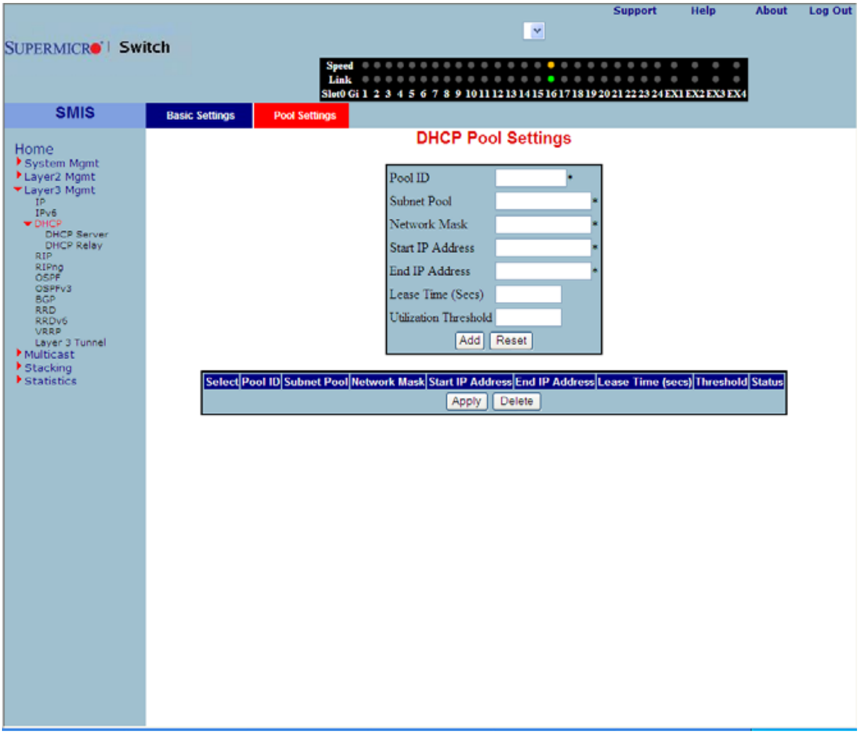
Clicking on the BASIC SETTINGS tab brings up the DHCP BASIC SETTINGS page (Figure 7-91). Table 7-69 lists the parameters found on this page.

Table 7-69. DHCP Basic Settings Page Parameters

Parameter	Description
DHCP-Server	Specifies whether the DHCP server using this configuration is **Enabled**/ **Disabled**.
Blocked IP Address Re-Use Timer (seconds)	Specifies the Reuse timeout value that is used by DHCP.
ICMP Echo	Specifies whether the ICMP (Internet Control Message Protocol) Echo feature is **Enabled**/**Disabled**.

Pool Settings

Figure 7-92. DHCP Pool Settings Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Pool Settings
DHCP Pool Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Pool ID
Subnet Pool
Network Mask
Start IP Address
End IP Address
Lease Time (Secs)
Utilization Threshold
Add
Reset
Select
Pool ID
Subnet Pool
Network Mask
Start IP Address
End IP Address
Lease Time (secs)
Threshold
Status
Apply
Delete

Clicking on the Pool Settings tab brings up the DHCP Pool Settings page (Figure 7-92). You can configure the IP address pool that can be used by the DHCP server to allocate IP addresses. Table 7-70 lists the parameters found on this page.

Table 7-70. DHCP Pool Settings Page Parameters

Parameter	Description
Pool ID	Specifies the pool Id to index among the different subnet pools configured.
Subnet Pool	Specifies the subnet of the IP address in the pool.
Network Mask	Specifies the subnet mask of the IP address in the pool.
Start IP Address	Specifies the first IP address in the address pool that is used for dynamic allocation by the DHCP server.
End IP Address	Specifies the last IP address in the address pool that is used for dynamic allocation by the DHCP server.
Lease Time	Specifies the time interval for which the IP address is valid.
Utilization Threshold	Specifies the DHCP Pool utilization threshold value.
Status	Specifies the status of the entry.

DHCP Relay

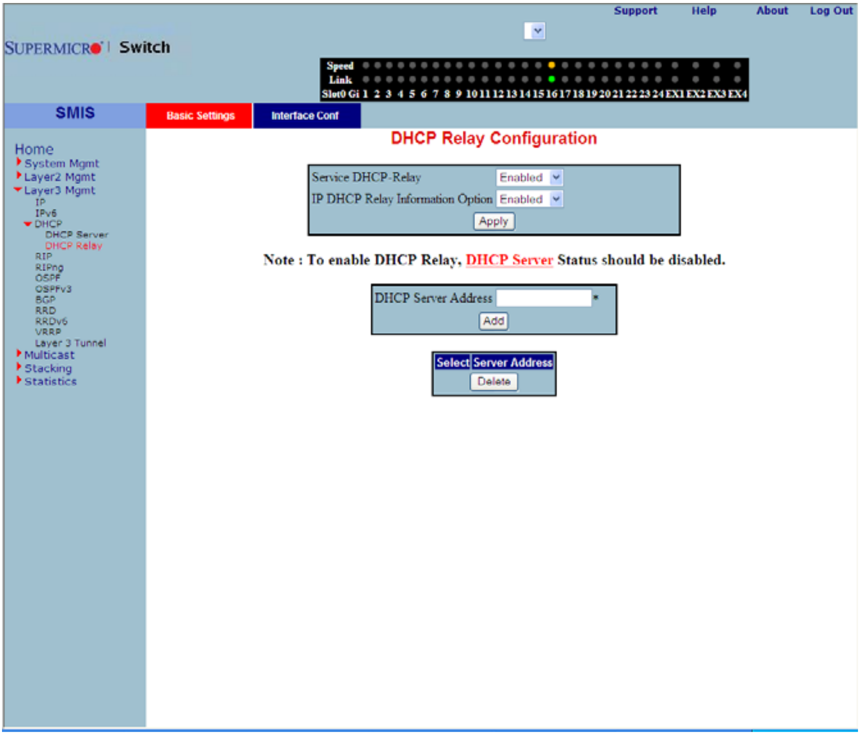
The DHCP RELAY link helps us to manage the DHCP Relay in the switch through the following two control tabs:

- Basic Settings
- Interface Conf

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-93. DHCP Relay Configuration Page



Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Conf
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply
Add
Select
Server Address
Delete

DHCP Relay Configuration

Service DHCP-Relay: Enabled

IP DHCP Relay Information Option: Enabled

Note : To enable DHCP Relay, DHCP Server Status should be disabled.

DHCP Server Address: *

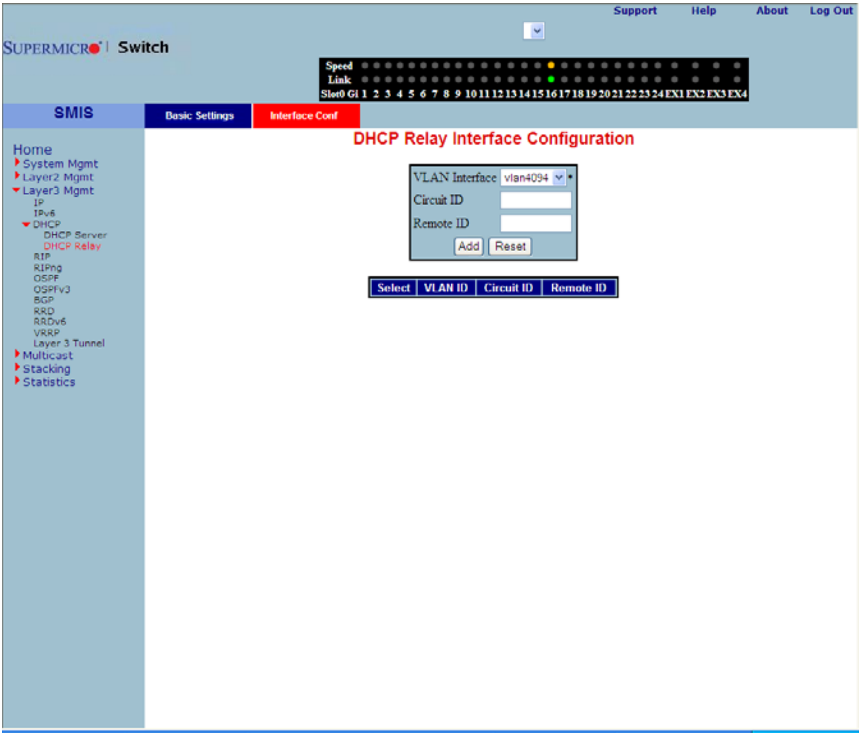
Clicking on the BASIC SETTINGS tab brings up the DHCP RELAY CONFIGURATION page (Figure 7-93). Table 7-71 lists the parameters found on this page.

Table 7-71. DHCP Relay Configuration Page Parameters

Parameter	**Description**
Service DHCP-Relay	Specifies the DHCP relay status that can be **Enabled**/**Disabled** in the switch using this field.
IP DHCP Relay Information Option	Enables/disables the controlling of the processing related to the Relay Agent Information options.
DHCP Server Address	Indicates the IP address of the DHCP Server to which the Relay Agent needs to forward the packets from the client.

Interface Conf

Figure 7-94. DHCP Relay Interface Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Conf
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add
Reset

DHCP Relay Interface Configuration

VLAN Interface: vlan4094
Circuit ID:
Remote ID:

Select	VLAN ID	Circuit ID	Remote ID

Clicking on the Interface Conf tab brings up the DHCP Relay Interface Configuration page (Figure 7-94). Table 7-72 lists the parameters found on this page.

Table 7-72. DHCP Relay Interface Configuration Page Parameters

Parameter	**Description**
VLAN Interface	Specifies the VLAN Interface.
Circuit ID	Specifies the Circuit ID that is to be configured for this interface. This can take values from **1** to **2147483647**.
Remote ID	Specifies the Remote ID that is to be configured for this interface.

RIP

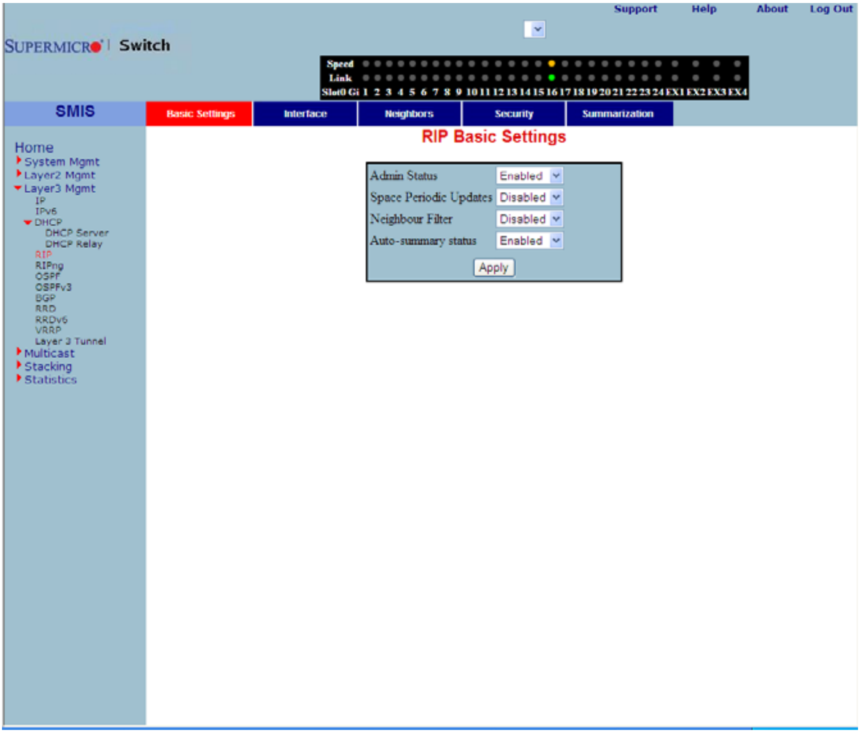
The RIP link provides the following control tabs for the configuration of the RIP protocol:

- Basic Settings
- Interface
- Neighbors
- Security
- Summarization

By default, the RIP BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-95. RIP Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Neighbors
Security
Summarization
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics

RIP Basic Settings

Admin Status	Enabled
Space Periodic Updates	Disabled
Neighbour Filter	Disabled
Auto-summary status	Enabled

Apply

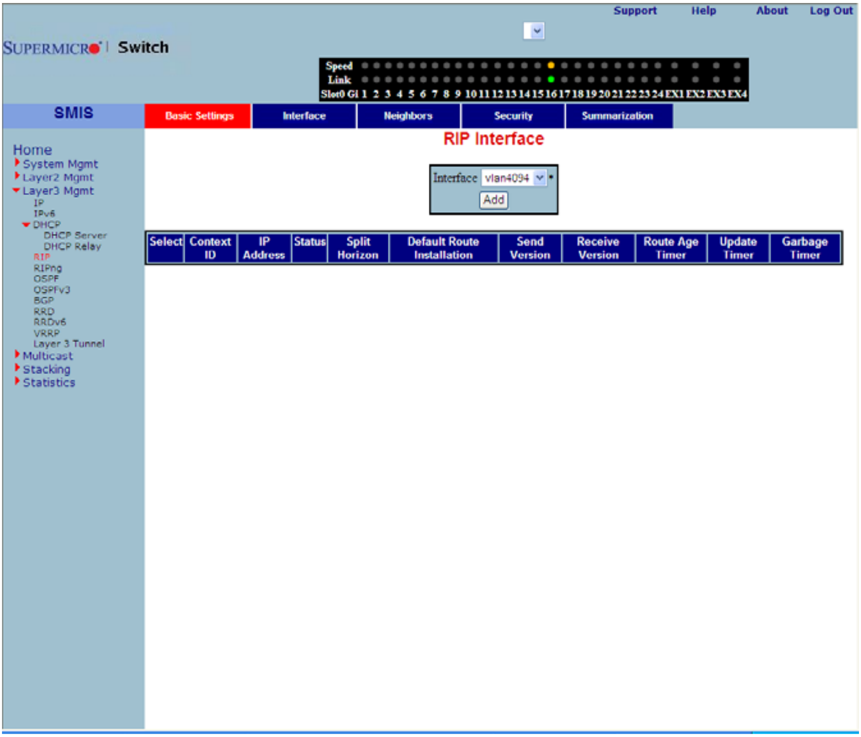
Clicking on the BASIC SETTINGS tab opens the RIP BASIC SETTINGS page (Figure 7-95). Table 7-73 lists the page's parameters.

Table 7-73. RIP Basic Settings Page Parameters

Parameter	Description
Admin Status	Specifies whether the admin status is **Enabled**/**Disabled**.
Space Periodic Updates	Specifies the delay that needs to be enabled for RIP to split the periodic update packets before they are sent out.
Neighbor Filter	Specifies whether the neighbor filtering is **Enabled**/**Disabled**. Neighbor filtering helps you to filter routes from specific neighbors.
Auto-summary Status	Specifies whether the auto-summary feature is **Enabled**/**Disabled**.

Interface

Figure 7-96. RIP Interface Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Neighbors
Security
Summarization
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
RIP Interface
Add

Interface vlan4094

Select	Context ID	IP Address	Status	Split Horizon	Default Route Installation	Send Version	Receive Version	Route Age Timer	Update Timer	Garbage Timer

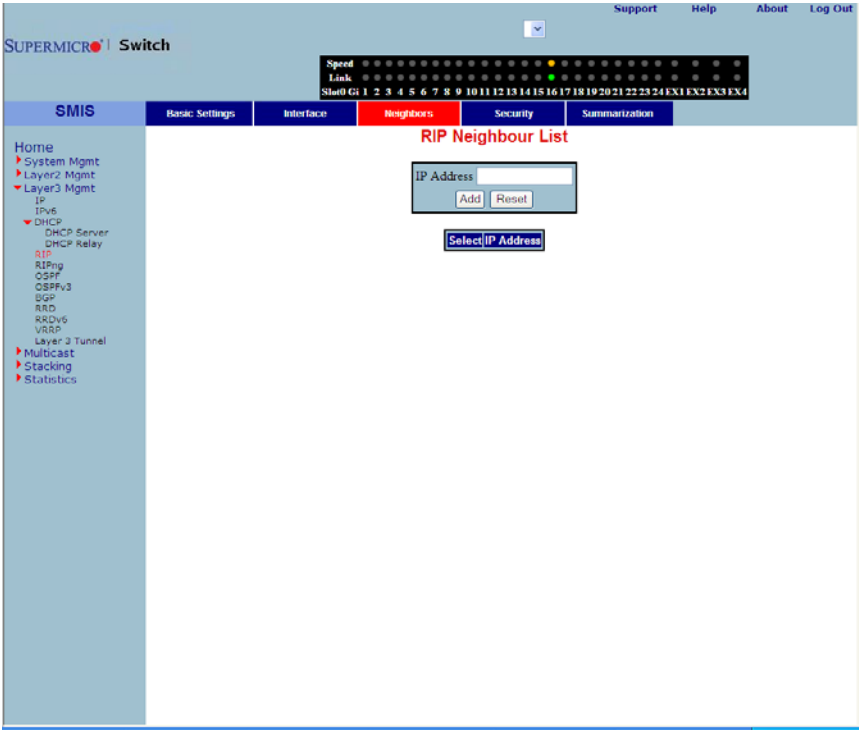
Clicking on the INTERFACES tab opens the RIP INTERFACE page (Figure 7-96). Table 7-74 lists the page's parameters.

Table 7-74. RIP Interface Page Parameters

Parameter	Description
Interface	Specifies the Interface ID for which RIP needs to be configured.
IP Address	Specifies the IP address of the RIP interface.
Status	Specifies the admin status of the interface.
Split Horizon	Specifies the operational status of Split Horizon in the system.
Default Route Installation	Specifies whether Default Route Installation can be done or not.
Send Version	Allows selecting the RIP packets sent to be compatible to either **RIPV1**, **RIPV1 Compatible** or **RIPv2**.
Receive Version	Allows to choose the RIP packets to be received as either **RIPV1**, **RIPV2**, both **RIPv1 and RIPv2** or **None**.
Route Age Timer (secs)	Specifies the time interval after which the routes will be flushed.
Update Timer (secs)	Specifies the time interval between successive RIP updates.
Garbage Timer (secs)	Specifies the time interval after which the invalid routes are removed from the routing table.

Neighbors

Figure 7-97. RIP Neighbor List Page

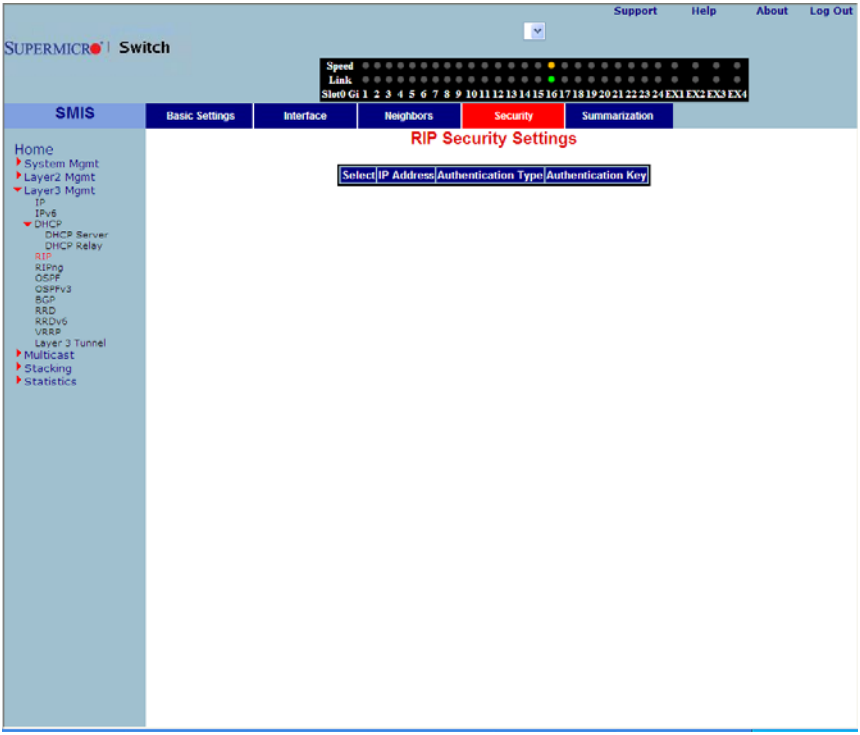

Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Neighbors
Security
Summarization
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
RIP Neighbour List
IP Address
Add
Reset
Select IP Address

Clicking on the NEIGHBORS LIST tab opens the RIP NEIGHBOR LIST page (Figure 7-97). This page is used to configure the RIP neighbors, by configuring their IP address.

The only parameter on this page is IP ADDRESS, which specifies the IP Address of the neighbor router to which the unicast update has to be sent.

Security

Figure 7-98. RIP Security Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Neighbors
Security
Summarization
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics

RIP Security Settings

Select	IP Address	Authentication Type	Authentication Key

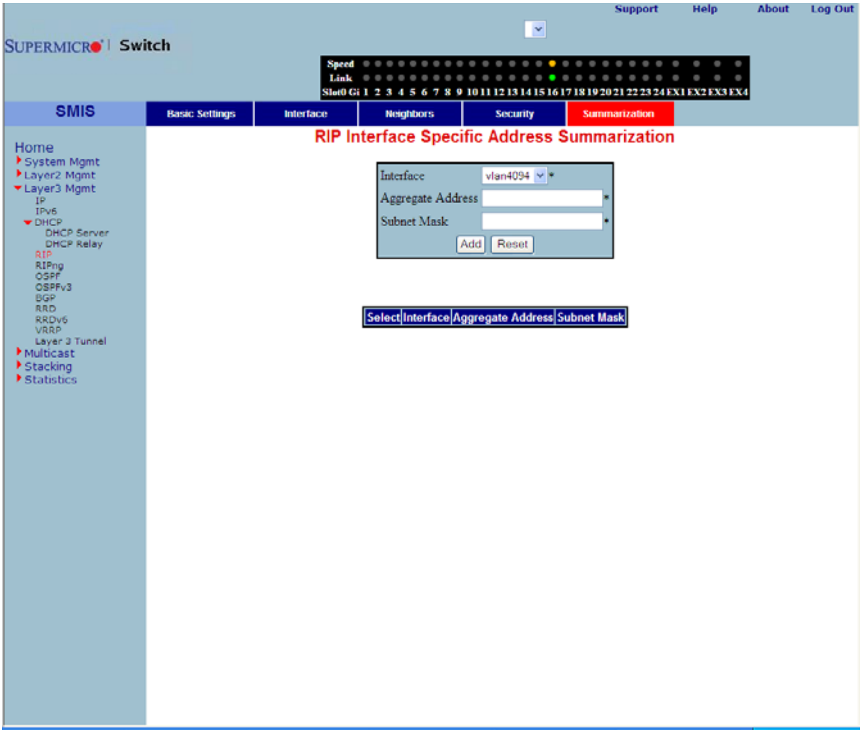
Clicking on the SECURITY SETTINGS tab opens the RIP SECURITY SETTINGS page (Figure 7-98). Table 7-75 lists the parameters found on this page.

Table 7-75. RIP Security Settings Page Parameters

Parameter	Description
IP Address	Displays the active RIP interfaces. You can select the interface for which you want to configure authentication.
Authentication Type	Specifies the authentication type. You can choose **No Authentication**, **Simple Password**, or the **md5** authentication type.
Authentication Key	Specifies the key used for authentication if the authentication type is other than *No Authentication*.

Summarization

Figure 7-99. RIP Interface Specific Address Summarization Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Neighbors
Security
Summarization
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add
Reset

RIP Interface Specific Address Summarization

Interface	vlan4094 *
Aggregate Address	*
Subnet Mask	*

Select	Interface	Aggregate Address	Subnet Mask

Clicking on the ADDRESS SUMMARIZATION tab opens the RIP INTERFACE SPECIFIC ADDRESS SUMMARIZATION page (Figure 7-99). Table 7-76 lists the parameters found on this page.

Table 7-76. RIP Interface Specific Address Summarization Page Parameters

Parameter	Description
Interface	Specifies the Interface ID for which RIP aggregate address needs to be configured.
Aggregate Address	Specifies the aggregate address.
Subnet Mask	Specifies the mask of the aggregate address.

RIPng

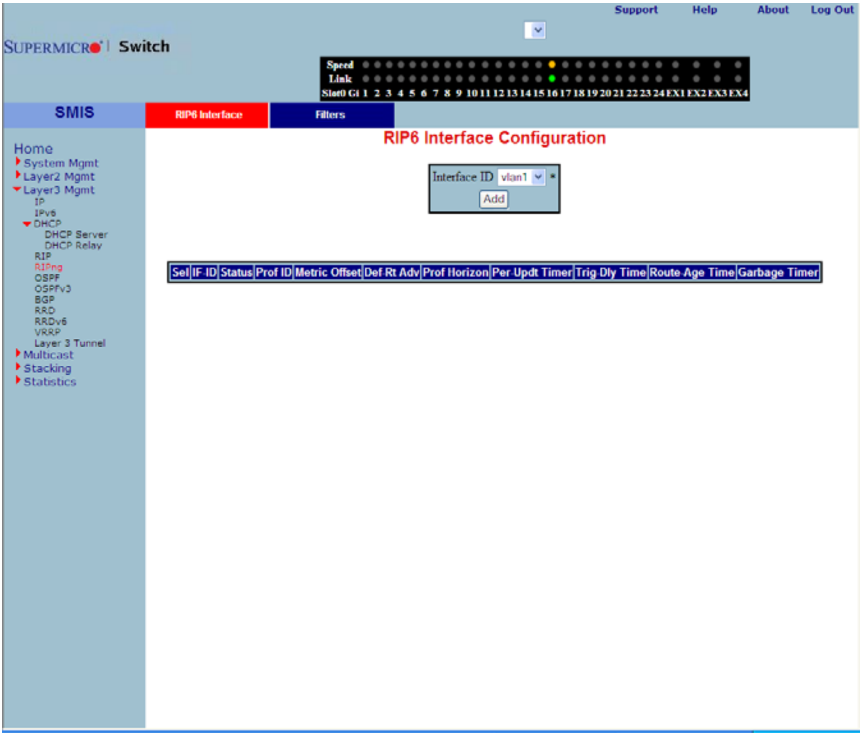
The RIPng link allows performing the RIPv6 related configuration. This can be accomplished through the following two tabs:

- RIP6 Interface
- Filters

By default, the RIP6 INTERFACE CONFIGURATION page is loaded.

RIP6 Interface

Figure 7-100. RIP6 Interface Configuration Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
RIP6 Interface
Filters
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add

RIP6 Interface Configuration

Interface ID vlan1 *

Sel	IF ID	Status	Prof ID	Metric Offset	Def Rt Adv	Prof Horizon	Per Updt Timer	Trig Dly Time	Route Age Time	Garbage Timer

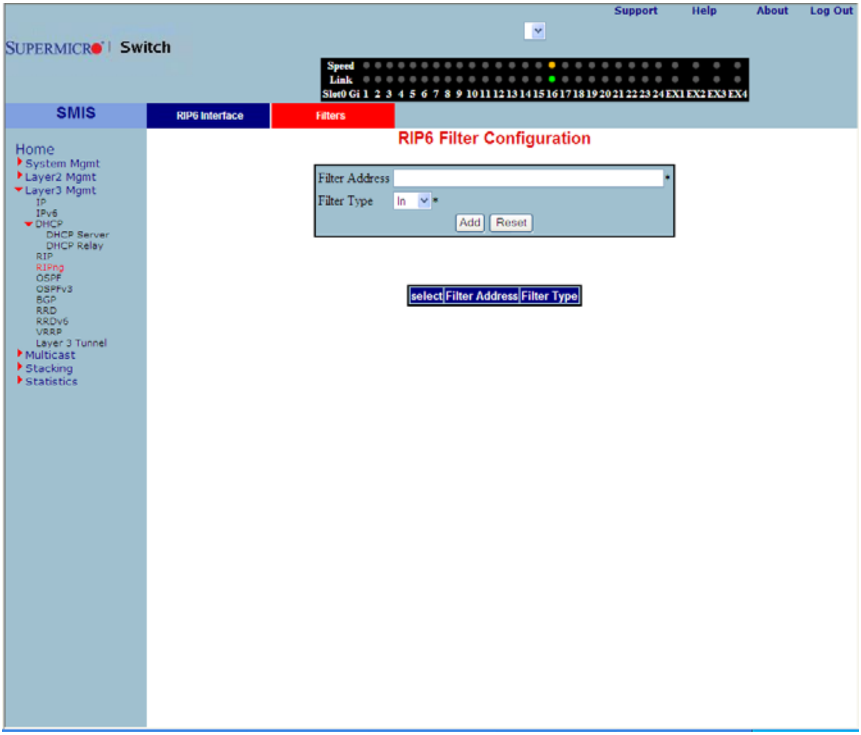
Clicking on the RIP6 INTERFACE tab opens the RIP6 INTERFACE CONFIGURATION page (Figure 7-100). Table 7-77 lists the parameters found on this page.

Table 7-77. RIP6 Interface Configuration Page Parameters

Parameter	Description
Interface ID	Specifies the Interface Id for which RIPv6 needs to be configured.
Status	Specifies the administration status of the interface.
Prof ID	Indicates the Index of the Address profile entry.
Metric Offset	Specifies the metric for the routes that are being re-distributed.
Def Rt Adv	Indicates the default router lifetime to be placed in the Router Advertisements sent on the interface.
Prof Horizon	Specifies the operational status of Profile Horizon in the system.
Per-Updt Timer	Specifies the time interval between successive RIP6 updates.
Trig-Dly Time	Indicates the time interval (in seconds) by which further triggered updates are delayed, after one triggered update is sent.
Route Age Time	Specifies the time interval after which the routes are flushed.
Garbage Timer	Specifies the time interval after which the invalid routes are removed from the routing table.

Filters

Figure 7-101. RIP6 Filter Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
RIP6 Interface
Filters
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
DHCP Server
DHCP Relay
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add
Reset

RIP6 Filter Configuration

Filter Address *

Filter Type In *

select	Filter Address	Filter Type

Clicking on the FILTERS tab displays the RIP6 FILTER CONFIGURATION page (Figure 7-101). Table 7-78 lists the parameters found on this page.

Table 7-78. RIP6 Filter Configuration Page Parameters

Parameter	Description
Filter Address	Specifies the Filter address for the RIP6 interface
Filter Type	Specifies the Filter type for which RIP6 needs to be configured.

OSPF

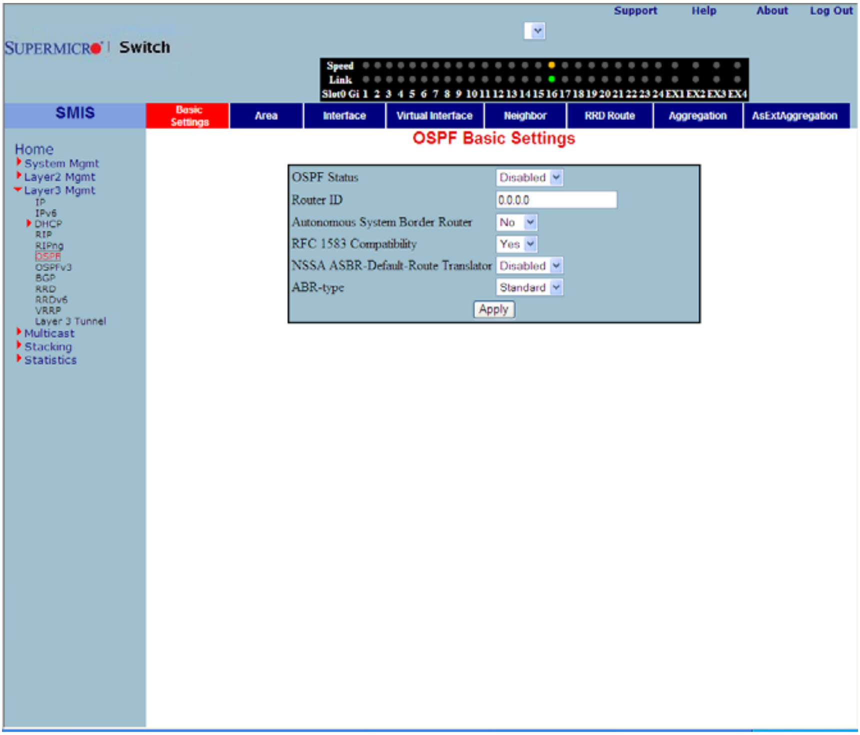
The OSPF link allows you to configure the OSPF protocol. The OSPF protocol in the switch can be configured through the following tabs:

- Basic Settings
- Area
- Interface
- Virtual Interface
- Neighbor
- RRD Route
- Aggregation
- AsExtAggregation

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-102. OSPF Basic Settings Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

OSPF Basic Settings

OSPF Status	Disabled
Router ID	0.0.0.0
Autonomous System Border Router	No
RFC 1583 Compatibility	Yes
NSSA ASBR-Default-Route Translator	Disabled
ABR-type	Standard

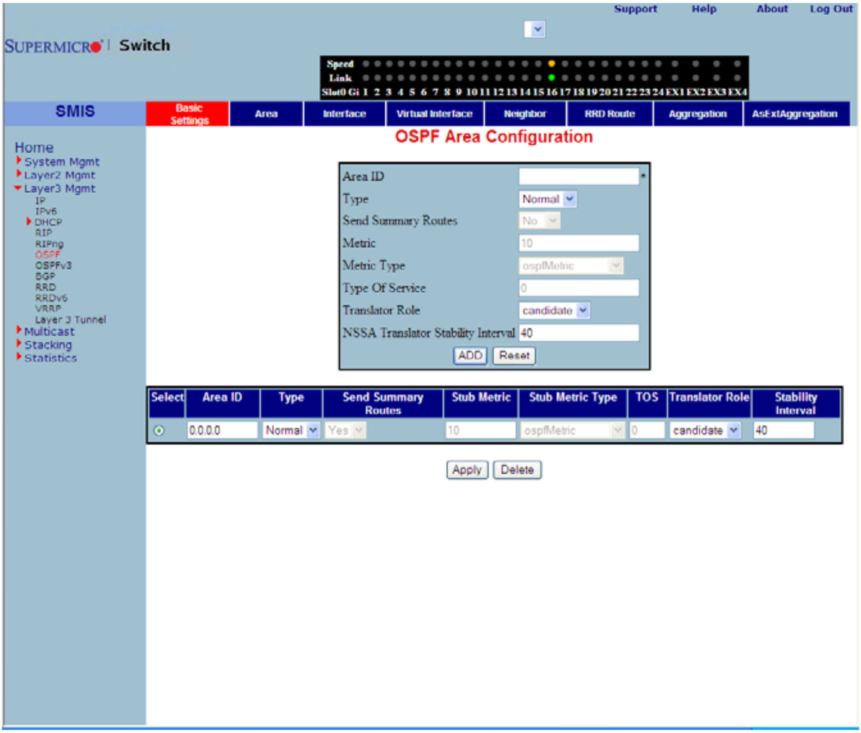
Clicking on the BASIC SETTINGS tab opens the OSPF BASIC SETTINGS page (Figure 7-102). Table 7-79 lists the parameters found on this page.

Table 7-79. OSPF Basic Settings Page Parameters

Parameter	Description
OSPF Status	Specifies the global status of the protocol in the switch.
Router ID	Specifies the router identifier.
ASBR (Autonomous System Border Router)	Indicates the flag to denote whether the router is configured as an Autonomous System Border Router.
RFC 1583 Compatibility	Permits to choose the route among multiple AS (Autonomous System) for the same destination.
NSSA (Not So Stubby Area) ASBR Default Route Translator	Specifies either **Enabled**/**Disabled** for the P-bit setting used for the default Type-7 LSA (Link State Advertisement) generated by ASBR.
ABR Type	Specifies the types of ABRs supported, where the types can be **Standard**, **Cisco** or **IBM**.

Area

Figure 7-103. OSPF Area Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset
Apply
Delete

OSPF Area Configuration

Area ID	
Type	Normal
Send Summary Routes	No
Metric	10
Metric Type	ospfMetric
Type Of Service	0
Translator Role	candidate
NSSA Translator Stability Interval	40

Select	Area ID	Type	Send Summary Routes	Stub Metric	Stub Metric Type	TOS	Translator Role	Stability Interval
○	0.0.0.0	Normal	Yes	10	ospfMetric	0	candidate	40

Clicking on the AREA tab opens the OSPF AREA CONFIGURATION page (Figure 7-103). Table 7-80 lists the parameters found on this page.

Table 7-80. OSPF Area Configuration Page Parameters

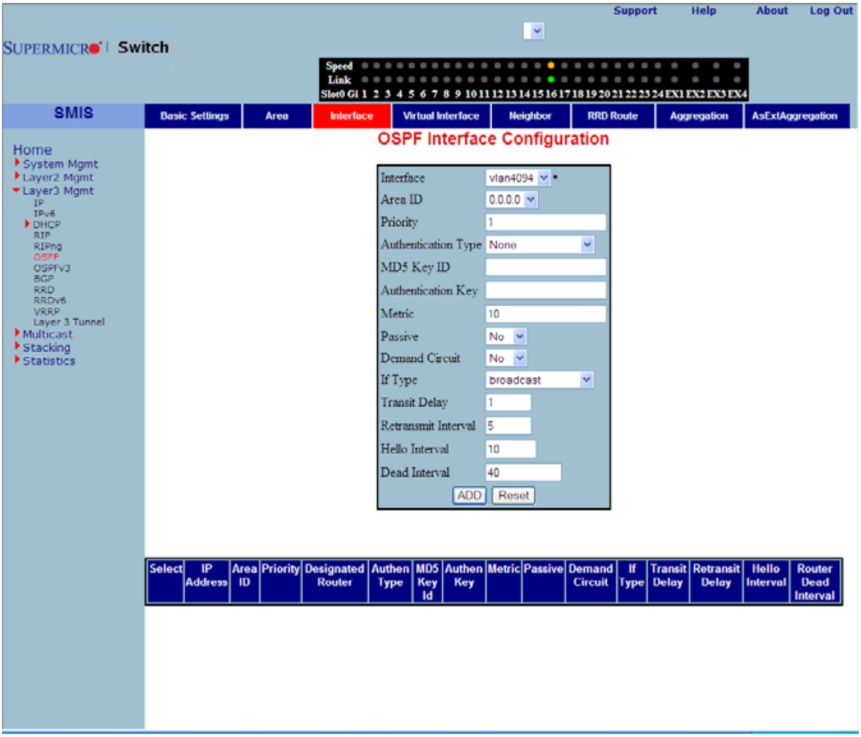
Parameter	Description
Area ID	Specifies the identifier for the area.
Type	You can configure the area type, as a stub area or a normal area or NSSA.
Send Summary Routers	This field is used to control the import of summary LSAs to stub areas. This does not have any impact for other areas.
Metric	Specifies the metric value applied at the indicated type of service. This is applicable to stub and NSSA area.
Metric Type	Specifies the type of metric advertised as a default route. This is applicable to stub and NSSA area.

Table 7-80. OSPF Area Configuration Page Parameters (Continued)

Parameter	Description
Type of Service	Specifies the type of service associated with the metric. This is applicable to stub and NSSA area.
Translator Role	Indicates an NSSA border router's ability to perform NSSA translation of Type-7 LSAs to Type-5 LSAs.
NSSA Translator Stability Interval	Specifies the number of seconds after which an elected translator determines its services are nor longer required, that its should continue to perform its translation duties.

Interface

Figure 7-104. OSPF Interface Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset

OSPF Interface Configuration

Interface	vlan4094
Area ID	0.0.0.0
Priority	1
Authentication Type	None
MD5 Key ID	
Authentication Key	
Metric	10
Passive	No
Demand Circuit	No
If Type	broadcast
Transit Delay	1
Retransmit Interval	5
Hello Interval	10
Dead Interval	40

Select	IP Address	Area ID	Priority	Designated Router	Authen Type	MD5 Key Id	Authen Key	Metric	Passive	Demand Circuit	If Type	Transit Delay	Retransmit Delay	Hello Interval	Router Dead Interval

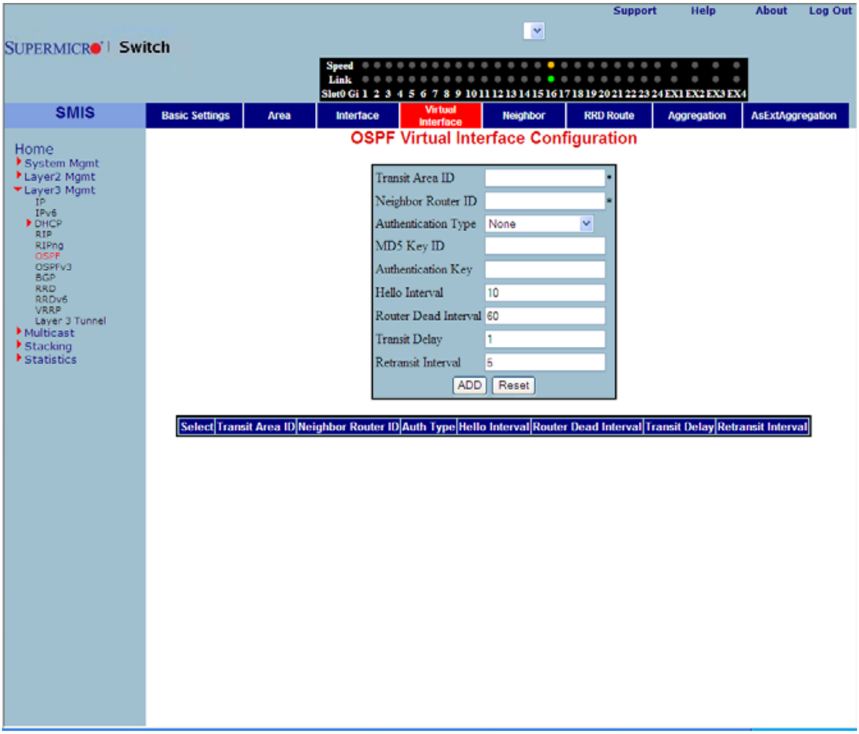
Clicking on the INTERFACE tab opens the OSPF INTERFACE CONFIGURATION page (Figure 7-104). Table 7-81 lists the parameters found on this page.

Table 7-81. OSPF Interface Configuration Page Parameters

Parameter	Description
Interface	Specifies the interface index of the port.
Area ID	Indicates the 32-bit integer uniquely identifying the area to which the interface connects.
Priority	Specifies the priority of this interface, which is used in the DR (Designated Router) election algorithm.
Authentication Type	You can choose **MD5**, **Simple Password**, or **None** as the authentication type.
MD5 Key ID	Specifies the secret key used to create the message digest appended to the OSPF packet if the authentication type is *MD5*.
Authentication Key	Specifies the key required for authentication, if authentication is enabled on this interface.
Metric	Specifies the metric of using the type of service on the interface.
Passive	Allows to configure the interface as passive or normal.
Demand Circuit	Indicates whether Demand OSPF procedures should be performed on this interface.
If Type	Specifies the OSPF interface type which can be **Broadcast**, **NBMA**, **Point-to-Point** or **Point-to-Multipoint**.
Transit Delay	Specifies the number of seconds taken to transmit a link state update packet over the interface.
Retransmit Interval	Specifies the number of seconds between link-state advertisement retransmissions, for adjacencies belonging to the interface.
Hello Interval	Specifies the length of time, in seconds, between the Hello packets sent on the interface.
Dead Interval	Specifies the number of seconds that a router's Hello packets have not been seen before it's neighbors declare the router down.
IP Address	Specifies the IP Address of the OSPF interface.
Designated Router	Specifies the IP Address of the Designated Router, which is a read-only field.

Virtual Interface

Figure 7-105. OSPF Virtual Interface Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset

OSPF Virtual Interface Configuration

Transit Area ID
Neighbor Router ID
Authentication Type: None
MD5 Key ID
Authentication Key
Hello Interval: 10
Router Dead Interval: 60
Transit Delay: 1
Retransit Interval: 5

Select	Transit Area ID	Neighbor Router ID	Auth Type	Hello Interval	Router Dead Interval	Transit Delay	Retransit Interval

Clicking on the VIRTUAL INTERFACE tab opens the OSPF VIRTUAL INTERFACE CONFIGURATION page (Figure 7-105). Table 7-82 lists the parameters found on this page.

Table 7-82. OSPF Virtual Interface Configuration Page Parameters

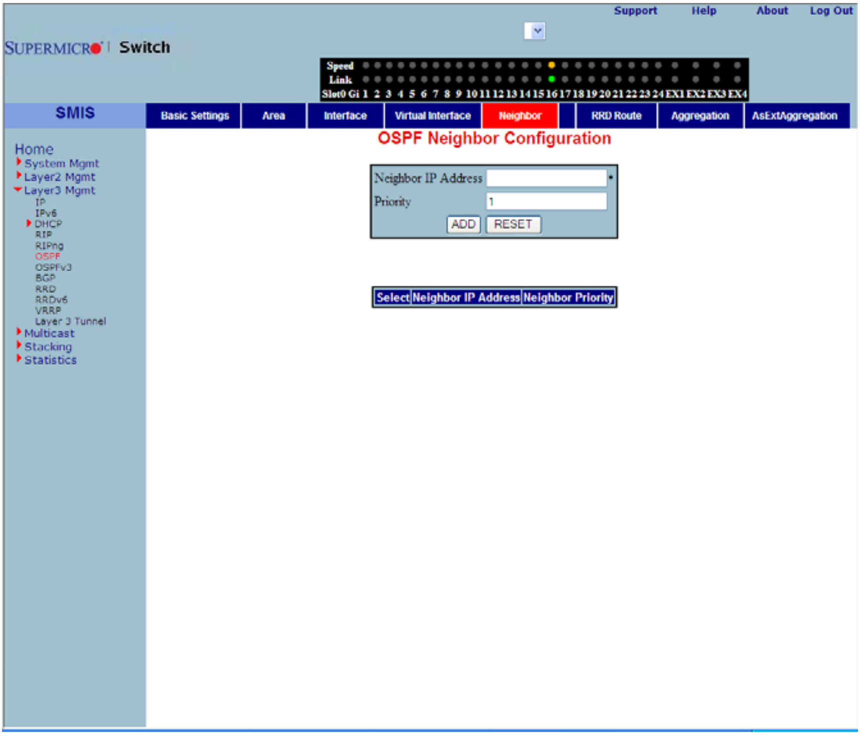
Parameter	**Description**
Transit Area ID	Specifies the transit area that the virtual link traverses.
Neighbor Router ID	Specifies the router ID of the virtual neighbor.
Authentication Type	You can choose **MD5**, **Simple Password**, or **None** as the authentication type.
MD5 Key ID	Specifies the secret key used to create the message digest appended to the OSPF packet if the authentication type is *MD5*.
Authentication Key	Specifies the key required for authentication, if authentication is enabled on this interface.
Hello Interval	Specifies the length of time, in seconds, between the Hello packets sent on the interface.

Table 7-82. OSPF Virtual Interface Configuration Page Parameters (Continued)

Parameter	Description
Router Dead Interval	Specifies the number of seconds that a router's Hello packets have not been seen before it's neighbors declare the router down.
Transit Delay	Specifies the number of seconds taken to transmit a link state update packet over the interface.
Retransit Interval	Specifies the number of seconds between link-state advertisement retransmissions, for adjacentcies belonging to the interface.

Neighbor

Figure 7-106. OSPF Neighbor Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
RESET

OSPF Neighbor Configuration

Neighbor IP Address *
Priority 1

Select	Neighbor IP Address	Neighbor Priority

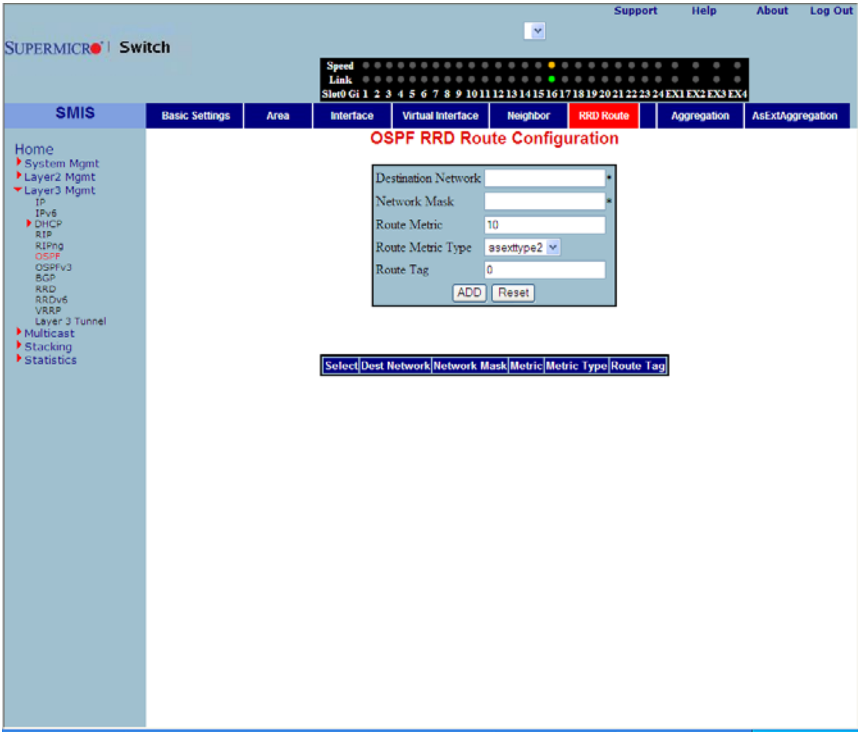
Clicking on the NEIGHBOR CONFIGURATION tab opens the OSPF NEIGHBOR CONFIGURATION page (Figure 7-106). Table 7-83 lists the parameters found on this page.

Table 7-83. OSPF Neighbor Configuration Page Parameters

Parameter	Description
Neighbor IP Address	Specifies the IP address used by the neighbor in the IP source address.
Priority	Specifies the priority of the neighbor in the designated router election algorithm.

RRD Route

Figure 7-107. OSPF RRD Route Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset

OSPF RRD Route Configuration

Destination Network	*
Network Mask	*
Route Metric	10
Route Metric Type	asexttype2
Route Tag	0

Select	Dest Network	Network Mask	Metric	Metric Type	Route Tag

Clicking on the RRD ROUTE CONFIGURATION tab opens the OSPF RRD ROUTE CONFIGURATION page (Figure 7-107). Table 7-84 lists the parameters found on this page.

Table 7-84. OSPF RRD Route Configuration Page Parameters

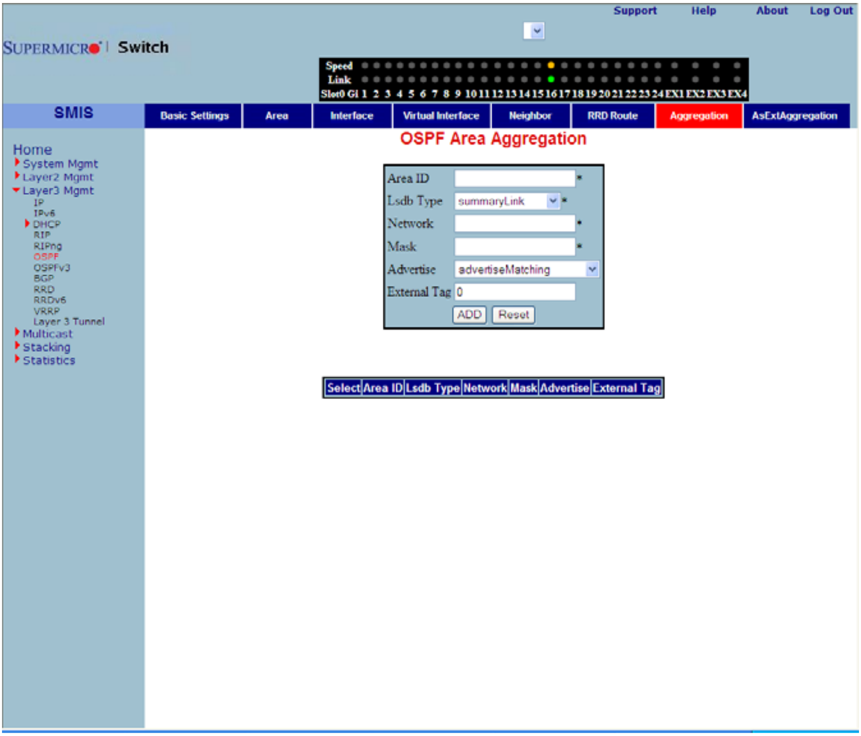
Parameter	Description
Destination Network	Specifies the IP address of the destination route.
Network Mask	Specifies the mask of the destination route.

Table 7-84. OSPF RRD Route Configuration Page Parameters (Continued)

Parameter	Description
Route Metric	Specifies the metric value applied to the route.
Route Metric Type	Specifies the metric type applied to the route.
Route Tag	Specifies the route tag if the user configures a manual option for tags.

Aggregation

Figure 7-108. OSPF Area Aggregation Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset

OSPF Area Aggregation

Area ID *
Lsdb Type: summaryLink *
Network *
Mask *
Advertise: advertiseMatching
External Tag: 0

Select	Area ID	Lsdb Type	Network	Mask	Advertise	External Tag

Clicking on the AGGREGATION tab opens the OSPF AREA AGGREGATION page (Figure 7-108). Table 7-85 lists the parameters found on this page.

Table 7-85. OSPF Area Aggregation Page Parameters

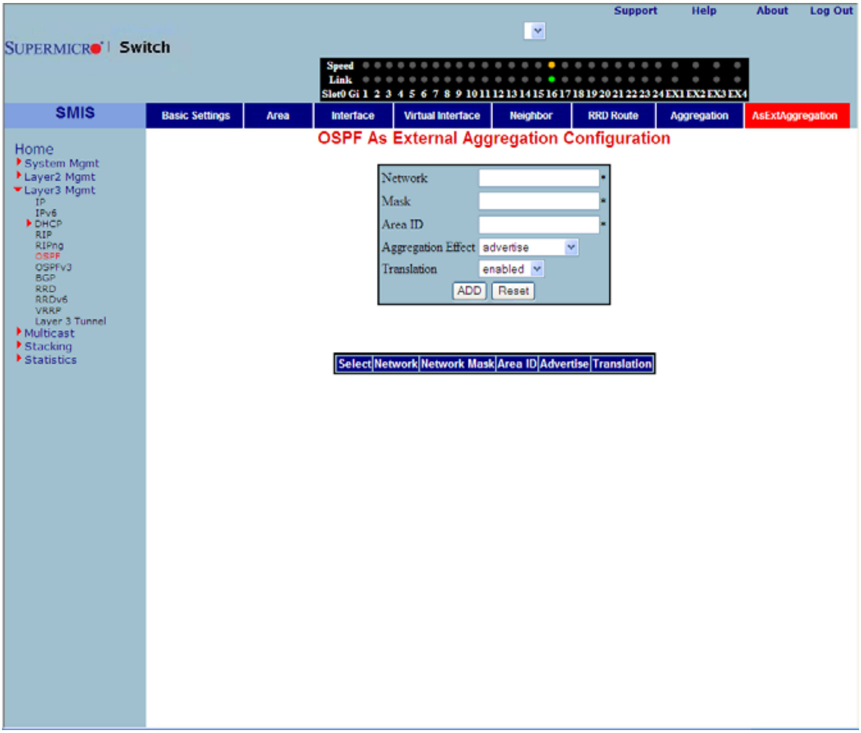
Parameter	Description
Area ID	Specifies the ID of the area in which the address aggregate is to be found.
LSDB Type	Specifies the Lsdb type of the address aggregate.

Table 7-85. OSPF Area Aggregation Page Parameters (Continued)

Parameter	Description
Network	Specifies the IP address of the Net or Subnet indicated by the range.
Mask	Specifies the Subnet Mask that pertains to the Net or Subnet.
Advertise	Indicates that the subnets subsumed by ranges trigger the advertisement of the indicated aggregate if **advertiseMatching** is selected, or result in the subnet's not being advertised at all outside the area when **doNotAdvertiseMatching** is selected.
External Tag	Specifies a 32-bit filed attached to external route.

AsExtAggregation

Figure 7-109. OSPF As External Aggregation Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Area
Interface
Virtual Interface
Neighbor
RRD Route
Aggregation
AsExtAggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset

OSPF As External Aggregation Configuration

Network *
Mask *
Area ID *
Aggregation Effect: advertise
Translation: enabled

Select	Network	Network Mask	Area ID	Advertise	Translation

Clicking on the ASEXTAGGREGATION tab opens the OSPF AS EXTERNAL AGGREGATION CONFIGURATION page (Figure 7-109). Table 7-86 lists the parameters found on this page.

Table 7-86. OSPF AS External Aggregation Configuration

Parameter	Description
Network	Specifies the IP address of the Net.
Mask	Specifies the Subnet mask.
Area ID	Specifies the ID of the area.
Aggregation Effect	Indicates whether or not Type-5/Type-7 will be aggregated.
Translation	Specifies whether the P-Bit setting in the generated Type-7 LSA is **Enabled**/**Disabled**.

OSPFv3

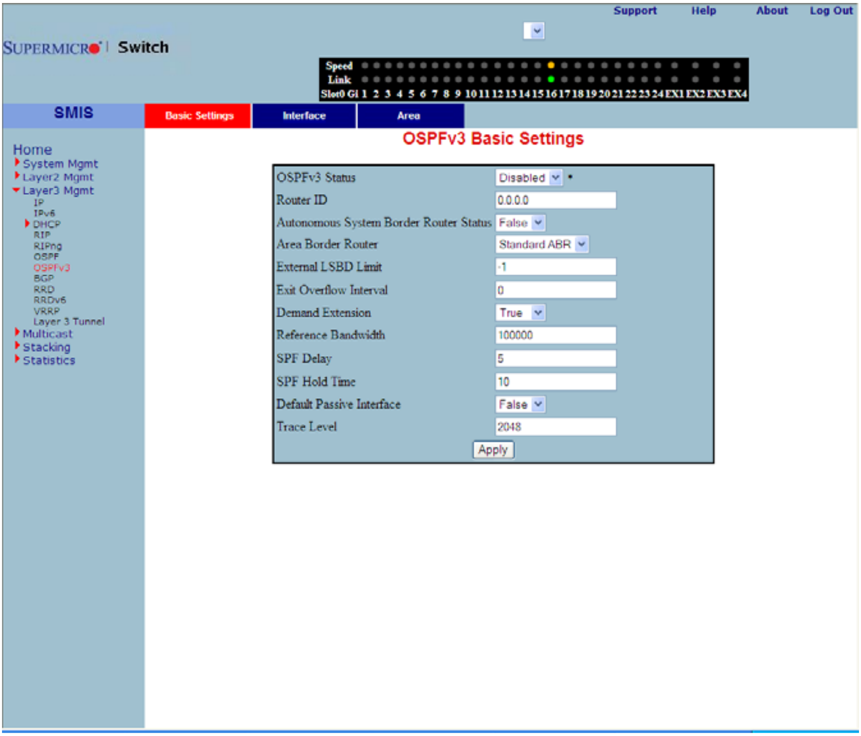
The OSPFv3 link allows you to configure the OSPFv3 protocol through the following tabs:

- Basic Settings
- Interface
- Area

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-110. OSPFv3 Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Area
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

OSPFv3 Basic Settings

OSPFv3 Status	Disabled
Router ID	0.0.0.0
Autonomous System Border Router Status	False
Area Border Router	Standard ABR
External LSBD Limit	-1
Exit Overflow Interval	0
Demand Extension	True
Reference Bandwidth	100000
SPF Delay	5
SPF Hold Time	10
Default Passive Interface	False
Trace Level	2048

Clicking on the BASIC SETTINGS tab opens the OSPFV3 BASIC SETTINGS page (Figure 7-110). Table 7-87 lists the parameters found on this page.

Table 7-87. OSPFv3 Basic Settings

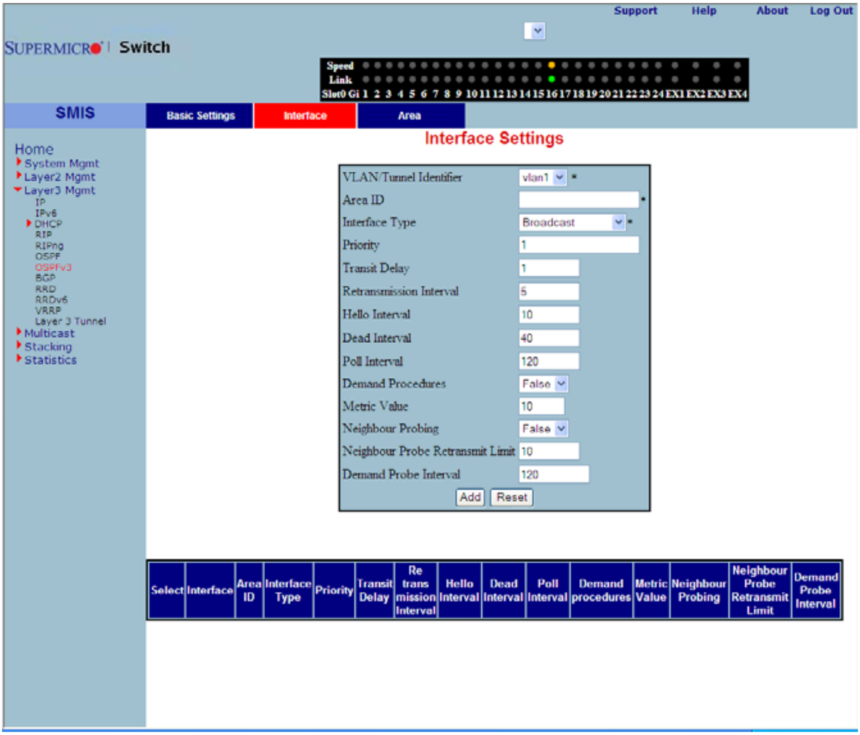
Parameter	**Description**
OSPFv3 Status	Specifies whether OSPFv3 is administratively **Enabled**/**Disabled**.
Router ID	Uniquely identifies the router in the Autonomous System.
Autonomous System Border Router Status	Specifies the router as Autonomous System border router.
Area Border Router	Specifies the router as an area border router.
External LSDB (Link State Database) Limit	Specifies maximum number of non-default AS-external-LSAs entries that can be stored in the link-state database.
Exit Overflow Interval	Specifies the time interval (in seconds) a router will attempt to leave OverflowState.

Table 7-87. OSPFv3 Basic Settings (Continued)

Parameter	Description
Demand Extension	Indicates the router's support for demand routing.
Reference Bandwidth	Specifies Reference bandwidth in kilobits/seconds, for calculating default interface metrics.
SPF Delay	Indicates the delay in routing calculation after a topology change.
SPF Hold Time	Specifies the minimum time between two consecutive SPF calculations.
Default Passive Interface	Specifies whether all the OSPFv3 interfaces created after this setting are passive or not.
Trace Level	Defines the level of trace required for OSPFv3.

Interface

Figure 7-111. Interface Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Area
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Interface Settings
Add
Reset

VLAN/Tunnel Identifier	vlan1 *
Area ID	*
Interface Type	Broadcast *
Priority	1
Transit Delay	1
Retransmission Interval	5
Hello Interval	10
Dead Interval	40
Poll Interval	120
Demand Procedures	False
Metric Value	10
Neighbour Probing	False
Neighbour Probe Retransmit Limit	10
Demand Probe Interval	120

Select	Interface	Area ID	Interface Type	Priority	Transit Delay	Re trans mission Interval	Hello Interval	Dead Interval	Poll Interval	Demand procedures	Metric Value	Neighbour Probing	Neighbour Probe Retransmit Limit	Demand Probe Interval

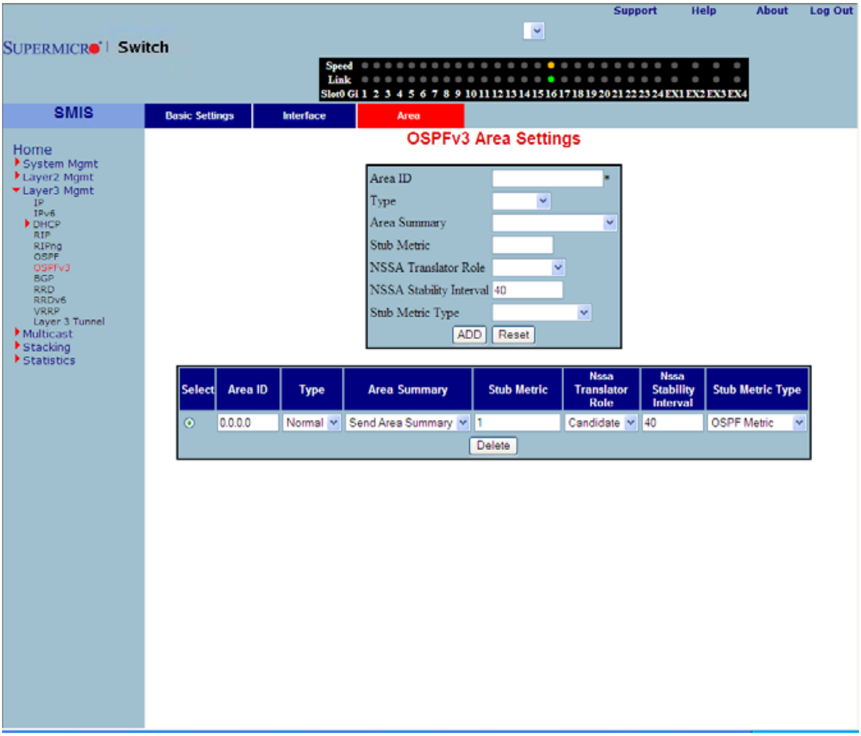
Clicking on the INTERFACE tab opens the INTERFACE SETTINGS page (Figure 7-111). Table 7-88 lists the parameters found on this page.

Table 7-88. Interface Settings

Parameter	Description
VLAN/Tunnel Identifier	Specifies the IPv6 interface over which OSPFv3 is enabled.
Area ID	Specifies the area ID associated with the IPv6 interface.
Interface Type	Specifies the type of OSPFv3 interface (broadcast, nbma, pointToPoint, pointToMultipoint).
Priority	Specifies the priority of the interface.
Transit Delay	Indicates the estimated number of seconds to transmit a link state update packet over the interface.
Retransmission Interval	Indicates the number of seconds between the link-state advertisement retransmissions, for adjacencies belonging to the interface.
Hello Interval	Indicates the length of time, in seconds, between the Hello packets that the router sends on the interface.
Dead Interval	Specifies the number of seconds for which the router waits for hello packet from the neighbor before declaring this neighbor down.
Poll Interval	Denotes the larger time interval, in seconds, between the Hello packets sent to an inactive non-broadcast multi- access neighbor.
Demand Procedures	Indicates whether Demand OSPFv3 procedures must be performed on this interface.
Metric Value	Specifies the metric assigned to this interface.
Neighbor Probing	Enables/disables neighbor probing to determine whether the neighbor is active/inactive.
Neighbor Probe Retransmit Limit	Indicates the number of consecutive LSA retransmissions before the neighbor is deemed inactive and the neighbor adjacency is brought down.
Demand Probe Interval	Defines how often the neighbor is probed.

Area

Figure 7-112. OSPFv3 Area Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface
Area
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset
Delete

OSPFv3 Area Settings

Area ID *
Type
Area Summary
Stub Metric
NSSA Translator Role
NSSA Stability Interval 40
Stub Metric Type

Select	Area ID	Type	Area Summary	Stub Metric	Nssa Translator Role	Nssa Stability Interval	Stub Metric Type
●	0.0.0.0	Normal	Send Area Summary	1	Candidate	40	OSPF Metric

Clicking on the AREA tab opens the OSPFV3 AREA SETTINGS page (Figure 7-112). Table 7-89 lists the parameters found on this page.

Table 7-89. OSPFv3 Area Settings

Parameter	Description
Area ID	Uniquely identifies an area.
Type	Indicates whether an area is a **Stub** area, **NSSA** or standard (**Normal**) area.
Area Summary	Controls the import of Inter-Area LSAs into stub areas. Options are **noAreaSummary** or **sendAreaSummary**.
Stub Metric	Indicates the metric value advertised for the default route into Stub area and NSSA.
NSSA Translator Role	Specifies the NSSA Border router's ability to perform NSSA translation of type-7 LSAs into type-5 LSAs.

Table 7-89. OSPFv3 Area Settings (Continued)

Parameter	Description
NSSA Stability Interval	Specifies the number of seconds after an elected translator determines its services are no longer required, that it must continue to perform its translation duties.
Stub Metric Type	Specifies the type of metric advertised as a default route (options are **OSPFv3 Metric**, **external type 1** or **external type 2**).

BGP

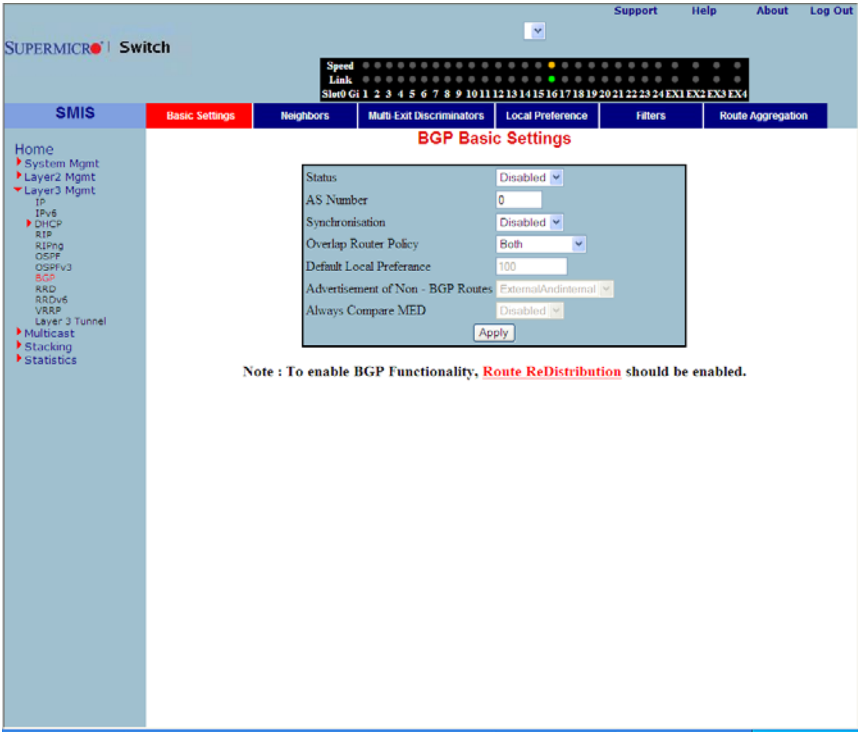
The BGP link allows you to configure the BGP protocol. The following configuration tabs are available to manage BGP:

- Basic Settings
- Neighbors
- Multi-Exit Discriminators
- Local Preference
- Filters
- Route Aggregation

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-113. BGP Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Neighbors
Multi Exit Discriminators
Local Preference
Filters
Route Aggregation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

BGP Basic Settings

Status	Disabled
AS Number	0
Synchronisation	Disabled
Overlap Router Policy	Both
Default Local Preferance	100
Advertisement of Non - BGP Routes	ExternalAndinternal
Always Compare MED	Disabled

Note : To enable BGP Functionality, Route ReDistribution should be enabled.

Clicking on the Basic Settings tab opens to the BGP Basic Settings page (Figure 7-113). Table 7-90 lists the parameters found on this page.

Table 7-90. BGP Basic Settings

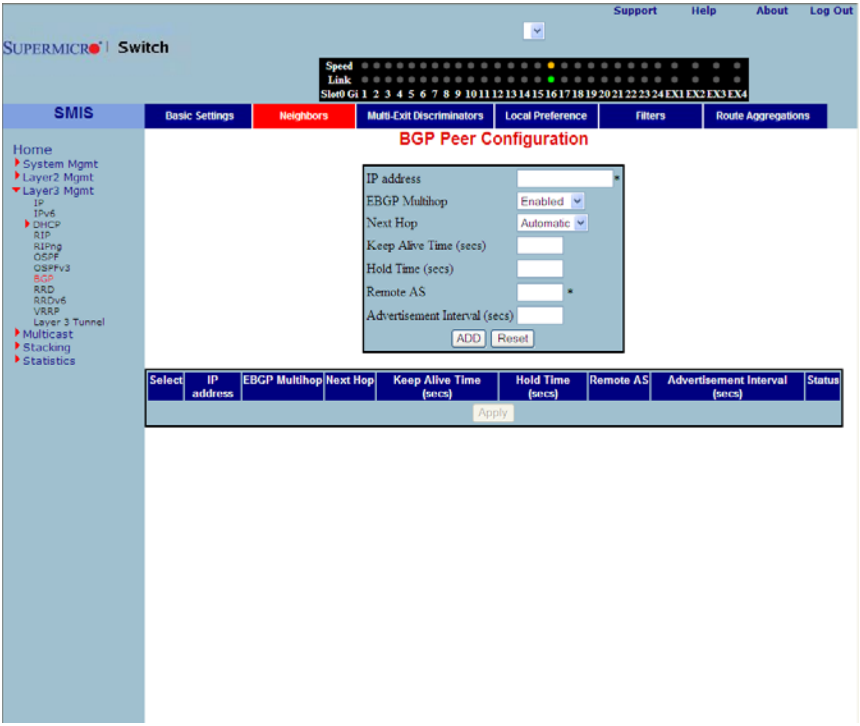
Parameter	Description
Status	Specifies the BGP admin status. Using this, the protocol can be **Enabled**/ **Disabled** in the switch.
AS Number	Specifies the autonomous system to which the switch is connected.This is a read-only field.
Synchronization	Enables/disables the synchronization between IGP and BGP.
Overlap Router Policy	Represents the policy for handling overlapping routes. When an overlapping route is received, depending upon the configured policy either the less-specific routes or most-specific routes or both are installed in the RIB (Routing Information Base) tree.
Default Local Preference	Sets a preference value for the autonomous system path.

Table 7-90. BGP Basic Settings (Continued)

Parameter	Description
Advertisement of Non-BGP Routes	Enables to advertise even the external non-BGP routes.
Always Compare MED	Allows you to set **Enabled** or **Disabled** to always compare the MED values of paths from different neighbors for the same prefix, for choosing the best path.

Neighbors

Figure 7-114. BGP Peer Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Neighbors
Multi-Exit Discriminators
Local Preference
Filters
Route Aggregations
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
BGP Peer Configuration
ADD
Reset
Select
IP address
EBGP Multihop
Next Hop
Keep Alive Time (secs)
Hold Time (secs)
Remote AS
Advertisement Interval (secs)
Status
Apply

IP address *
EBGP Multihop: Enabled
Next Hop: Automatic
Keep Alive Time (secs)
Hold Time (secs)
Remote AS *
Advertisement Interval (secs)

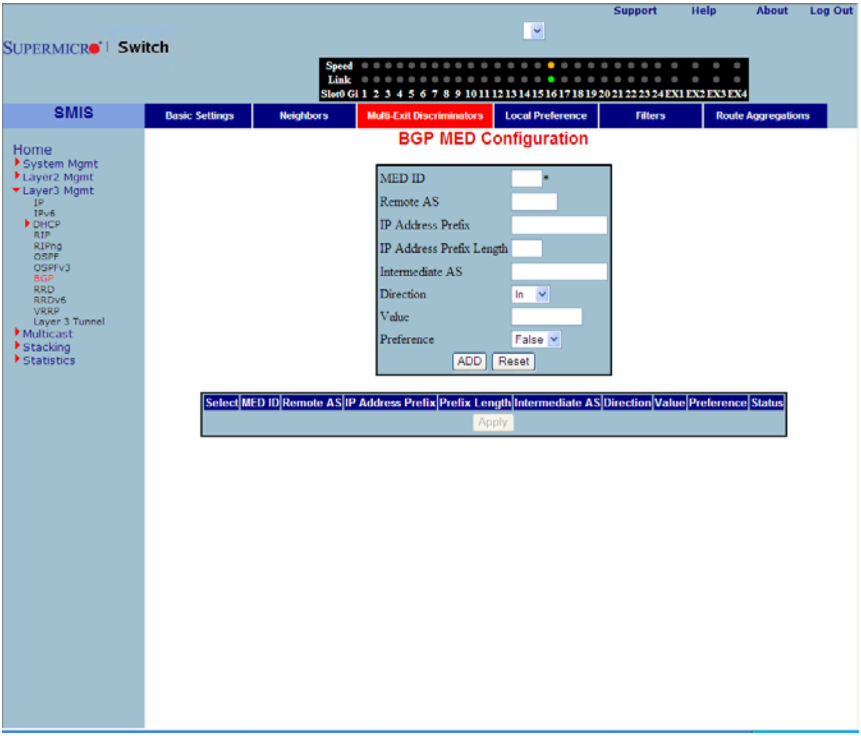
Clicking on the NEIGHBORS tab opens the BGP PEER CONFIGURATION page (Figure 7-114), which allows you to configure the BGP neighbors. Table 7-91 lists the parameters found on this page.

Table 7-91. BGP Peer Configuration

Parameter	Description
IP address	Specifies the IP address of the BGP neighbor.
EBGP MultiHop	Enables BGP connections tobe established between peers, which are not directly connected.
Next Hop	Permits to set the Next Hop as **Self** or **Automatic**. By setting this field to **Self**, you can make the switch the next hop for all the routes that it distributes to its peers.
Keep Alive Time (Seconds)	Specifies the maximum time interval between successive updates between any two BGP peers.
Hold Time (Seconds)	Specifies the Hold time. This is the timer interval that a BGP will wait, before it decides that a connection to the peer is torn down.
Remote AS	Represents the remote autonomous system number.
Advertisement Interval (seconds)	Specifies the interval in seconds for the Minimum Route advertisement interval timer.
Status	Specifies the status of the entry.

Multi-Exit Discriminators

Figure 7-115. BGP MED Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Neighbors
Multi-Exit Discriminators
Local Preference
Filters
Route Aggregations
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
BGP MED Configuration
MED ID *
Remote AS
IP Address Prefix
IP Address Prefix Length
Intermediate AS
Direction
Value
Preference
ADD
Reset
Apply

Direction: In

Preference: False

Select	MED ID	Remote AS	IP Address Prefix	Prefix Length	Intermediate AS	Direction	Value	Preference	Status

Clicking on the Multi-Exit Discriminators tab opens the BGP MED Configuration page (Figure 7-115). This page allows the user to configure the MED value for routes learnt from BGP peers. Table 7-92 lists the parameters found on this page.

Table 7-92. BGP MED Configuration

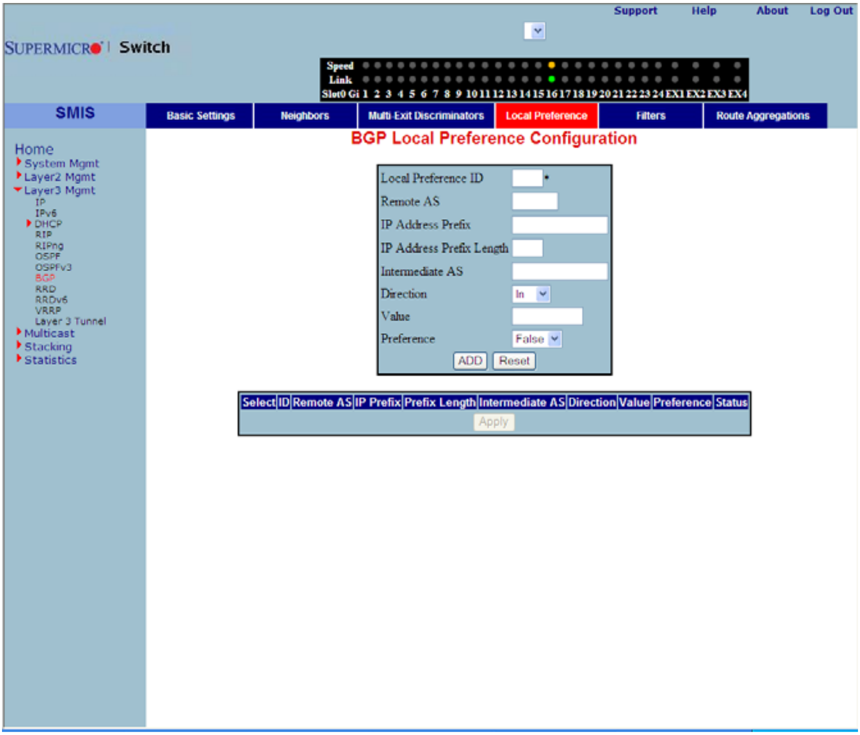
Parameter	Description
MED ID	Specifies the index for this table.
Remote AS	Specifies the AS number from which the route update is received.
IP Address Prefix	Specifies the IP address prefix for which the update is received.
IP Address Prefix Length	Indicates the prefix length of the IP address.
Intermediate AS	Represents the intermediate AS between the BGP peers.
Direction	Permits you to specify the incoming or the outgoing direction of the packets using **In** and **Out** values.

Table 7-92. BGP MED Configuration (Continued)

Parameter	Description
Value	Specifies the MED value to be associated with this path learnt.
Preference	Allows you to set filtering as either **Enabled** or **Disabled**.
Status	Indicates the status of the entry.

Local Preference

Figure 7-116. BGP Local Preference Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Neighbors
Multi Exit Discriminators
Local Preference
Filters
Route Aggregations
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset
Apply

BGP Local Preference Configuration

Local Preference ID *
Remote AS
IP Address Prefix
IP Address Prefix Length
Intermediate AS
Direction: In
Value
Preference: False

Select	ID	Remote AS	IP Prefix	Prefix Length	Intermediate AS	Direction	Value	Preference	Status

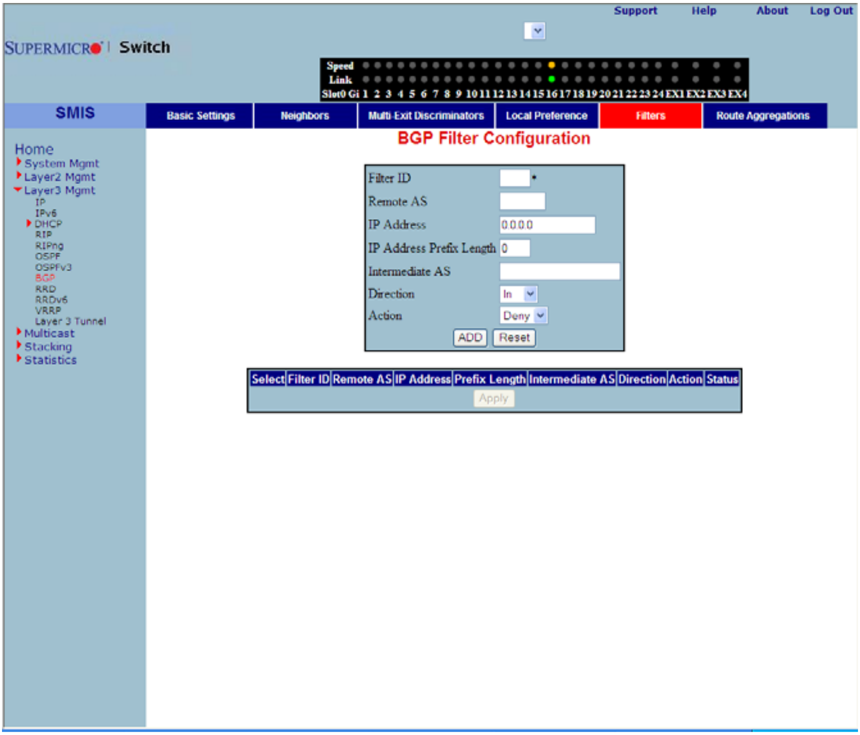
Clicking on the LOCAL PREFERENCE tab opens the BGP LOCAL PREFERENCE CONFIGURATION page (Figure 7-116). This page allows you to configure the LOCAL PREFERENCE value for routes. Table 7-93 lists the parameters found on this page.

Table 7-93. BGP Local Preference Configuration Page Parameters

Parameter	Description
Local preference ID	Specifies the Local Preference ID, which is the index for this table.
Remote AS	Specifies the AS number from which the route update is received.
IP Address Prefix	Specifies the IP Address prefix for which the update is received.
IP Address Prefix Length	Indicates the prefix length of the IP address.
Intermediate AS	Represents the intermediate AS between the BGP peers.
Direction	Permits to specify the incoming or the outgoing direction of the packets using **In** and **Out** values.
Value	Specifies the Local Preference value to be associated with this path learnt.
Preference	Allows you to set filtering as either **Enabled** or **Disabled**.
Status	Specifies the status of the entry.

Filters

Figure 7-117. BGP Filter Configuration Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Neighbors
Multi-Exit Discriminators
Local Preference
Filters
Route Aggregations
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset
Apply

BGP Filter Configuration

Filter ID	*
Remote AS	
IP Address	0.0.0.0
IP Address Prefix Length	0
Intermediate AS	
Direction	In
Action	Deny

Select	Filter ID	Remote AS	IP Address	Prefix Length	Intermediate AS	Direction	Action	Status

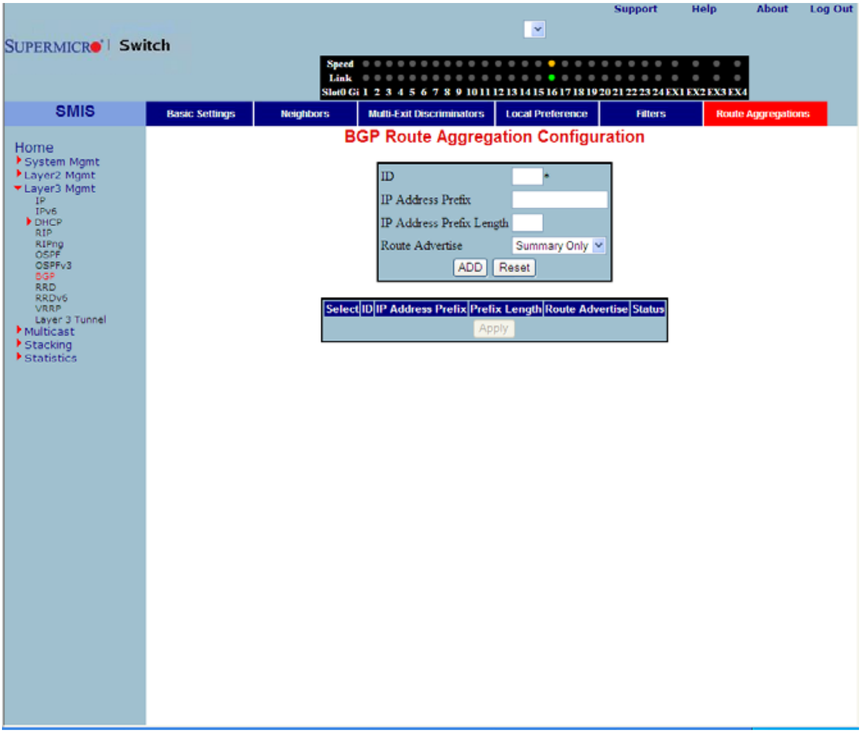
Clicking on the FILTERS tab opens the BGP FILTER CONFIGURATION page (Figure 7-117). This page is used to set filters on routes being learnt. Table 7-94 lists the parameters found on this page.

Table 7-94. BGP Filter Configuration Page Parameters

Parameter	Description
Filter ID	Specifies the filter index.
Remote AS	Specifies the remote AS associated with the BGP peer from which the router is being distributed.
IP Address	Specifies the IP address for which the route is being learnt.
IP Address Prefix Length	Specifies the prefix length to calculate the Subnet.
Intermediate AS	Represents the intermediate AS between the BGP peers.
Direction	Indicates the direction of the packet.
Action	Allows/denies the filtering for the above set of configuration.
Status	Specifies the status of the entry.

Route Aggregation

Figure 7-118. BGP Route Aggregation Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Neighbors
Multi-Exit Discriminators
Local Preference
Filters
Route Aggregations
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
BGP Route Aggregation Configuration
ID *
IP Address Prefix
IP Address Prefix Length
ADD
Reset
Select | ID | IP Address Prefix | Prefix Length | Route Advertise | Status
Apply

Route Advertise: Summary Only

Clicking on the ROUTE AGGREGATIONS tab opens the BGP ROUTE AGGREGATION CONFIGURATION page (Figure 7-118). The routes advertised by BGP can be aggregated and configured through this page. Table 7-95 lists the parameters found on this page.

Table 7-95. BGP Route Aggregation Configuration Page Parameters

Parameter	Description
ID	Specifies the index to this table.
IP Address Prefix	Specifies the IP address prefix, which needs to be aggregated.
IP Address Prefix Length	Decides, in combination with the IP Prefix, whether the aggregated route to be distributed by this switch.
Route Advertise	Specifies to advertise only the aggregated routes by setting **Summary Only** or to advertise all routes by setting **All**.
Status	Specifies the status of the entry.

RRD

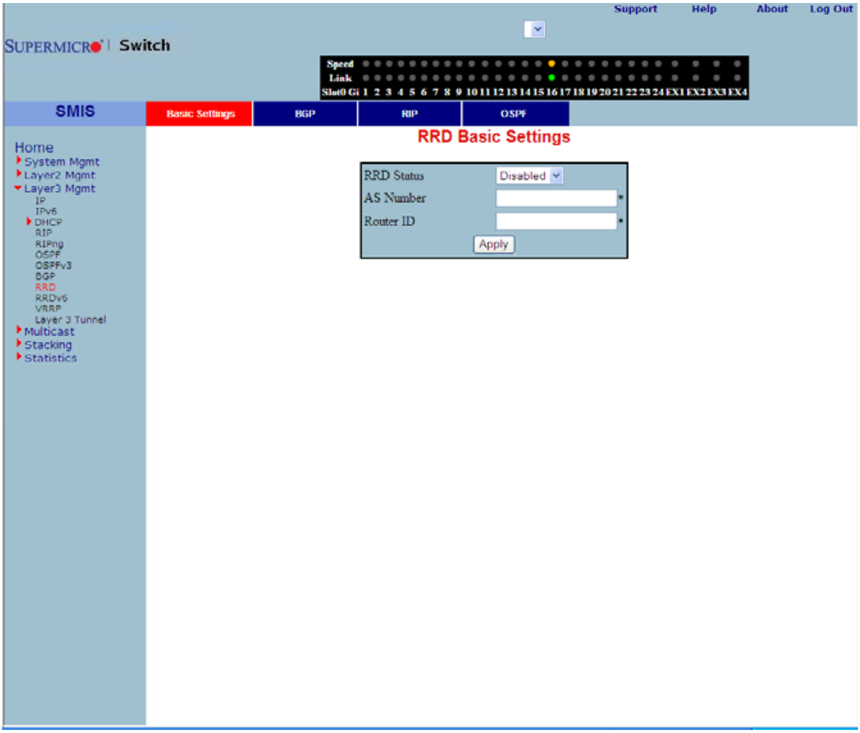
The RRD link allows you to manage the Route Redistribution with the help of the following tabs:

- Basic Settings
- BGP
- RIP
- OSPF

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-119. RRD Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
BGP
RIP
OSPF
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

RRD Basic Settings

RRD Status	Disabled
AS Number	*
Router ID	*

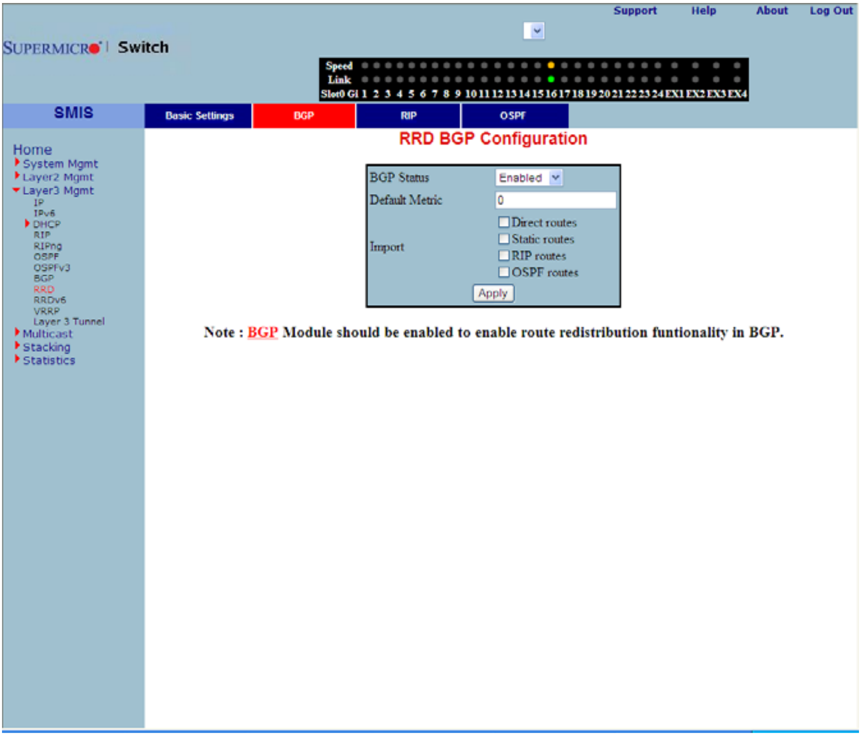
Clicking on the BASIC SETTINGS tab opens the RRD BASIC SETTINGS page (Figure 7-119). Table 7-96 lists the parameters found on this page.

Table 7-96. RRD Basic Settings Page Parameters

Parameter	Description
RRD Status	Enables Route Re-distribution in the switch.
AS Number	Configures the Router AS number to which the switch belongs.
Router ID	Represents the Router ID of the switch.

BGP

Figure 7-120. RRD BGP Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
BGP
RIP
OSPF
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics

RRD BGP Configuration

BGP Status: Enabled

Default Metric: 0

Import:
☐ Direct routes
☐ Static routes
☐ RIP routes
☐ OSPF routes

Apply

Note : BGP Module should be enabled to enable route redistribution funtionality in BGP.

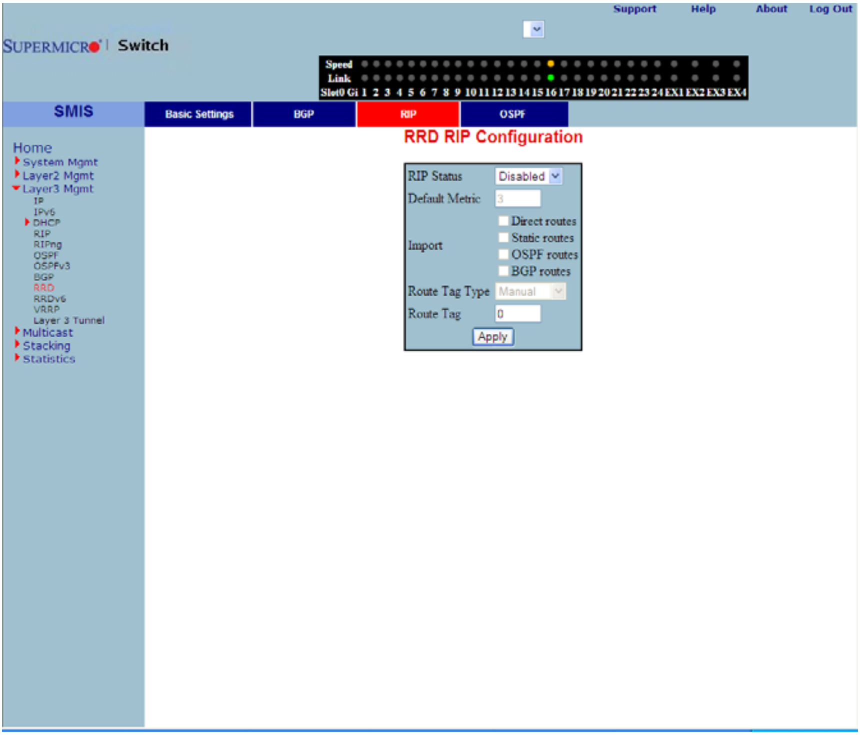
Clicking on the BGP tab opens the RRD BGP CONFIGURATION page (Figure 7-120). Using this page the user can re-distribute the routes that are learnt through other routing protocols to BGP. Table 7-97 lists the parameters found on this page.

Table 7-97. RRD BGP Configuration Page Parameters

Parameter	Description
BGP Status	Enables/Disables redistribution for BGP.
Default Metric	Specifies the metric for the routes that are being re-distributed.
Import	Permits you to import **Direct Routes**, **Static Routes**, **RIP Routes** and/or **OSPF Routes** to BGP.

RIP

Figure 7-121. RRD RIP Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
BGP
RIP
OSPF
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

RRD RIP Configuration

RIP Status: Disabled
Default Metric: 3
Import: ☐ Direct routes ☐ Static routes ☐ OSPF routes ☐ BGP routes
Route Tag Type: Manual
Route Tag: 0

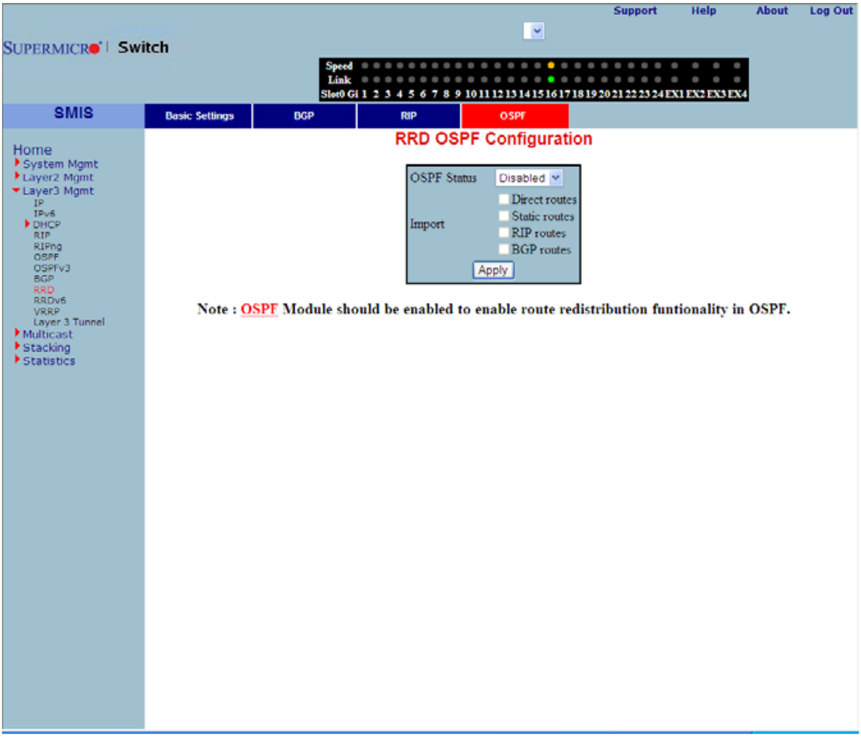
Clicking on the RIP tab opens the RRD RIP CONFIGURATION page (Figure 7-121). Using this page you can re-distribute the routes that are learnt through other routing protocols to RIP. Table 7-98 lists the parameters found on this page.

Table 7-98. RRD RIP Configuration Page Parameters

Parameter	Description
RIP Status	Allows you to set redistribution for RIP as **Enabled**/**Disabled**.
Default Metric	Specifies the metric for the routes that are being re-distributed.
Import	Permits you to import **Direct Routes**, **Static Routes**, **Ospf Routes** and **Bgp Routes** to RIP.
Route Tag Type	Describes whether tag is **Manually** configured or **Automatically** generated.
Route Tag	Indicates the route tag in case the user configures a manual option for the tag type.

OSPF

Figure 7-122. RRD OSPF Configuration Page


Support
Help
About
Log Out
SUPERMICR Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
BGP
RIP
OSPF
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics

RRD OSPF Configuration

OSPF Status	Disabled
Import	☐ Direct routes ☐ Static routes ☐ RIP routes ☐ BGP routes

Apply

Note : OSPF Module should be enabled to enable route redistribution funtionality in OSPF.

Clicking on the OSPF tab opens the RRD OSPF CONFIGURATION page (Figure 7-122). Using this page you can re-distribute the routes that are learnt through other routing protocols to OSPF. Table 7-99 lists the parameters found on this page.

Table 7-99. RRD OSPF Configuration Page Parameters

Parameter	Description
OSPF Status	Allows you to set redistribution for OSPF as **Enabled**/**Disabled**.
Import	Permits you to import **Direct Routes**, **Static Routes**, **RIP Routes** and **BGP Routes** to OSPF.

RRDv6

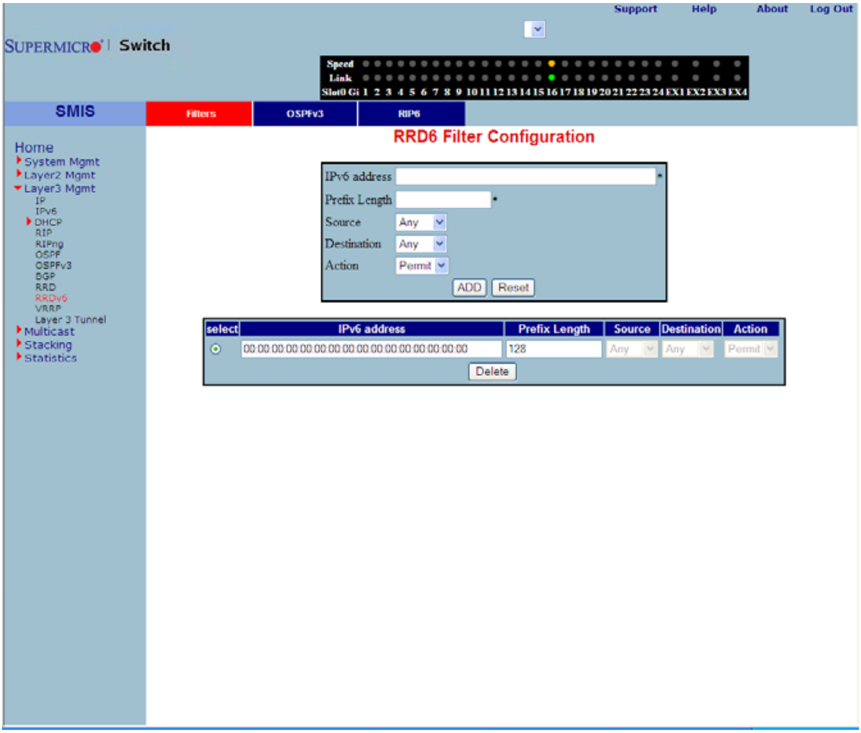
The RRD6 link allows performing the RRD6 related configuration. This can be accomplished through the following three control tabs.

- Filters
- OSPFv3
- RIP6

By default, the FILTERS tab is loaded.

Filters

Figure 7-123. RRD6 Filter Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Filters
OSPFv3
RIP6
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset
Delete

RRD6 Filter Configuration

IPv6 address	*
Prefix Length	*
Source	Any
Destination	Any
Action	Permit

select	IPv6 address	Prefix Length	Source	Destination	Action
●	00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00	128	Any	Any	Permit

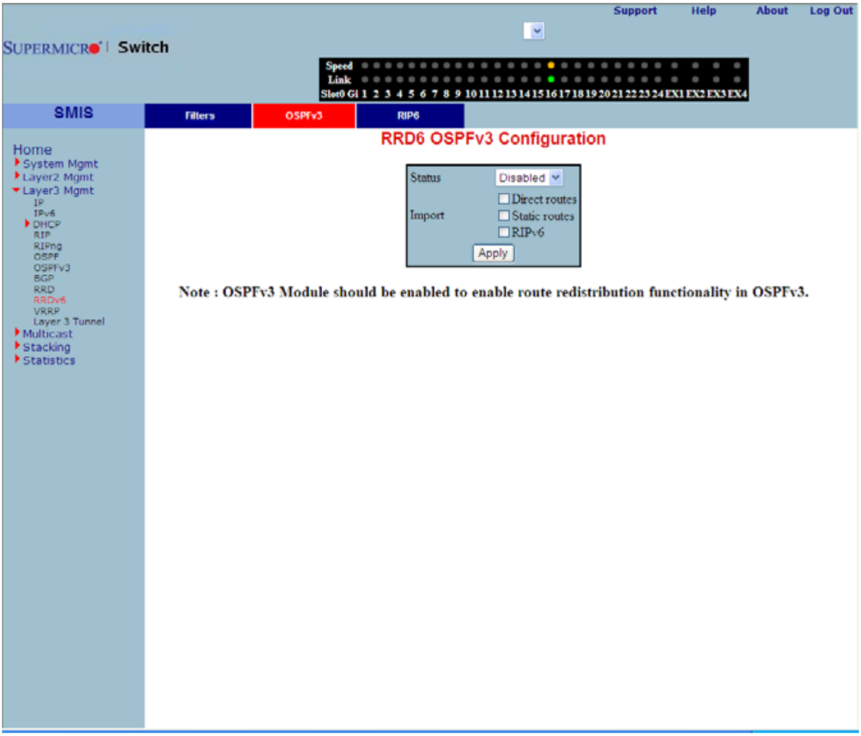
Clicking on the FILTERS tab opens the RRD6 FILTER CONFIGURATION Page (Figure 7-123). Table 7-100 lists the parameters found on this page.

Table 7-100. RRD6 Filter Configuration Page Parameters

Parameter	Description
IPv6 address	Specifies the IPv6 Address.
Prefix Length	Indicates the length of the prefix (in bits) associated with this entry's IPv6 address.
Source	Denotes the address of the Source.
Destination	Specifies the address of the Destination.
Action	Permits or denies filtering for the above set of configuration.

OSPFv3

Figure 7-124. RRD6 OSPFv3 Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Filters
OSPFv3
RIP6
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

RRD6 OSPFv3 Configuration

Status: Disabled

Import: ☐ Direct routes ☐ Static routes ☐ RIPv6

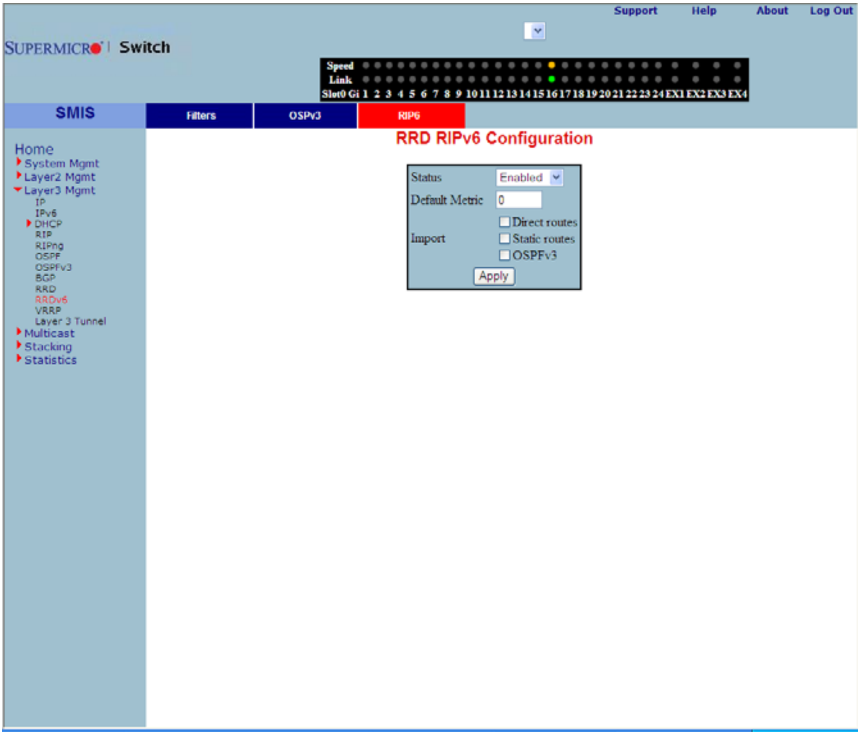
Note : OSPFv3 Module should be enabled to enable route redistribution functionality in OSPFv3.

Clicking on the OSPFv3 tab opens the RRD6 OSPFv3 CONFIGURATION page (Figure 7-124). Table 7-101 lists the parameters found on this page.

Table 7-101. RRD6 OSPFv3 Configuration Page Parameters

Parameter	Description
Status	Allows you to set redistribution for OSPFv3 as **Enabled**/**Disabled**.
Import	Permits you to import **Direct Routes**, **Static Routes** and **RIPv6 Routes**.

RIP6



Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Filters
OSPv3
RIP6
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Apply

RRD RIPv6 Configuration

Status: Enabled

Default Metric: 0

Import: ☐ Direct routes ☐ Static routes ☐ OSPFv3

Figure 7-125. RRD RIPv6 Configuration Page

The RIP6 tab opens the RRD RIPV6 CONFIGURATION page (Figure 7-125). Table 7-102 lists the parameters found on this page.

Table 7-102. RRD RIPv6 Configuration Page Parameters

Parameter	Description
Status	Allows you to set redistribution for RIP6 as **Enabled**/**Disabled**.
Default Metric	Specifies the metric for the routes that are being re-distributed.
Import	Permits you to import **Direct Routes**, **Static Routes**, and **OSPFv3 Routes**.

VRRP

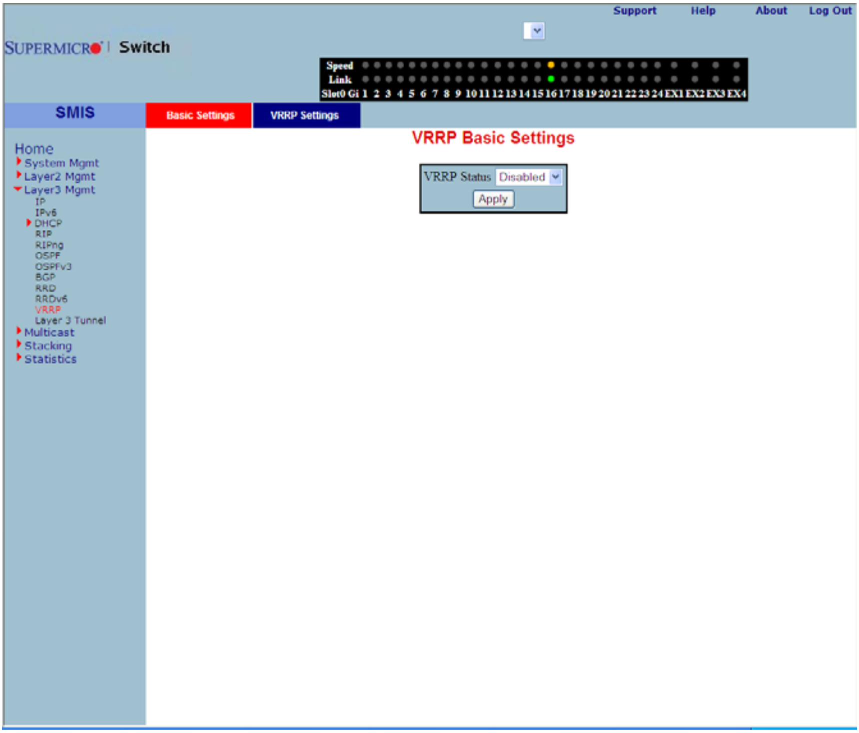
The VRRP link allows you to configure VRRP through the following two control tabs:

- Basic Settings
- VRRP Settings

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-126. VRRP Basic Settings Page

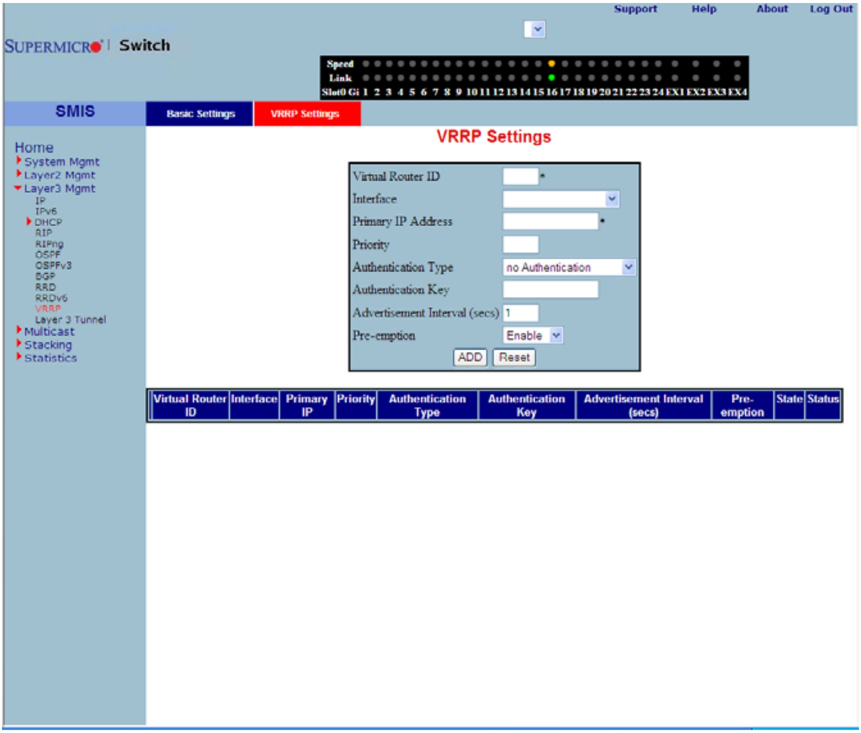

Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
VRRP Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
VRRP Basic Settings
Apply

VRRP Status: Disabled

Clicking on the BASIC SETTINGS tab opens the VRRP BASIC SETTINGS page (Figure 7-126), which allows you to configure the VRRP Status. The only parameter on this page is **VRRP Status**, which specifies the status of VRRP in the switch.

VRRP Settings

Figure 7-127. VRRP Settings Page


Support
Help
About
Log Out
SUPERMICR●
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
VRRP Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
ADD
Reset

VRRP Settings

Virtual Router ID	*
Interface	
Primary IP Address	*
Priority	
Authentication Type	no Authentication
Authentication Key	
Advertisement Interval (secs)	1
Pre-emption	Enable

Virtual Router ID	Interface	Primary IP	Priority	Authentication Type	Authentication Key	Advertisement Interval (secs)	Pre-emption	State	Status

Clicking on the VRRP SETTINGS tab opens the VRRP SETTINGS page (Figure 7-127). Table 7-103 lists the parameters found on this page.

Table 7-103. VRRP Settings Page Parameters

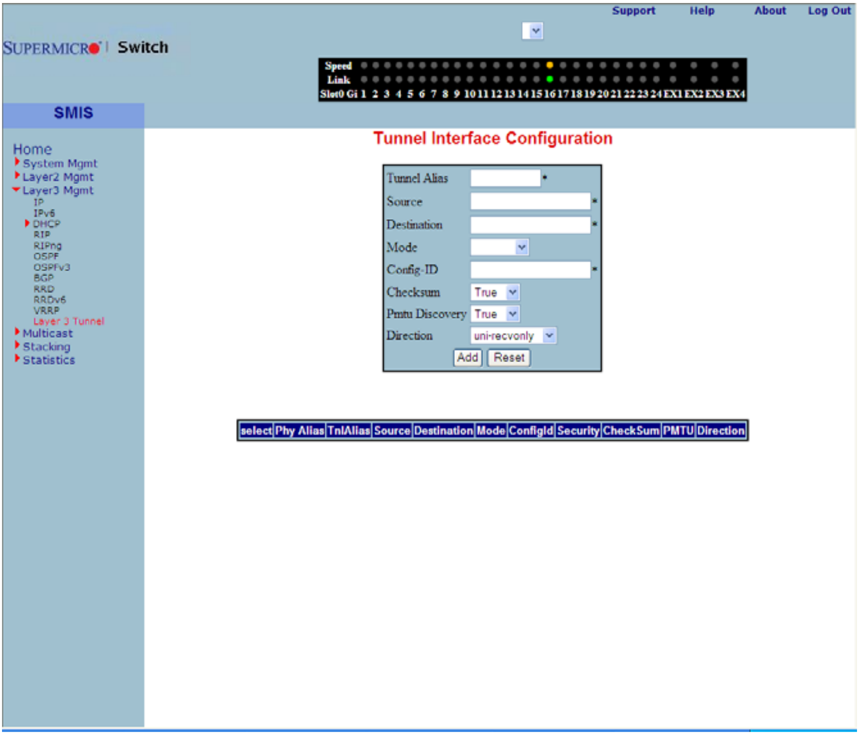
Parameter	**Description**
Virtual Router ID	Indicates the Virtual ID associated with each Virtual Router.
Interface	Represents the interface on which the Virtual Router must be configured.
Primary IP Address	Specifies the Primary IP Address for the Virtual Router.
Priority	Indicates the Priority for the Virtual Router. The Configurable Priority value ranges from **1** to **254**.
Authentication Type	Indicates the Authentication Type for the Virtual Router.
Authentication Key	Indicates the Authentication Key for the Virtual Router.
Advertisement Interval (Secs)	Specifies the time interval, in seconds, for sending the advertisement packets.

Table 7-103. VRRP Settings Page Parameters (Continued)

Parameter	Description
Pre-emption	Allows you to set the Preempt mode as **Enabled**/**Disabled**.
State	Indicates the current state of the Virtual Router.
Status	Specifies the Admin Status of the Virtual Router.

Layer 3 Tunnel

Figure 7-128. Tunnel Interface Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
IP
IPv6
DHCP
RIP
RIPng
OSPF
OSPFv3
BGP
RRD
RRDv6
VRRP
Layer 3 Tunnel
Multicast
Stacking
Statistics
Add
Reset

Tunnel Interface Configuration

Tunnel Alias *
Source *
Destination *
Mode
Config-ID *
Checksum: True
Pmtu Discovery: True
Direction: uni-recvonly

select	Phy Alias	TnlAlias	Source	Destination	Mode	ConfigId	Security	CheckSum	PMTU	Direction

Clicking on the LAYER 3 TUNNEL link opens the TUNNEL INTERFACE CONFIGURATION page (Figure 7-128). Table 7-104 lists the parameters found on this page.

Table 7-104. Tunnel Interface Configuration Page Parameters

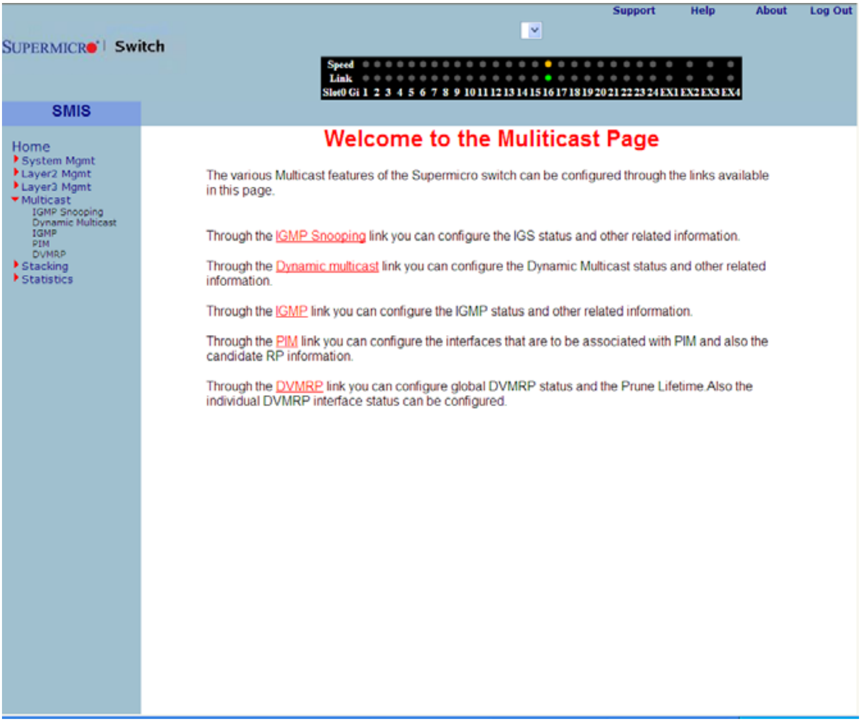
Parameter	Description
Tunnel Alias	Specifies the Tunnel Interface Alias.
Source	Indicates the address of the local end point of the tunnel.

Table 7-104. Tunnel Interface Configuration Page Parameters (Continued)

Parameter	Description
Destination	Specifies the address of the remote end point of the tunnel.
Mode	Specifies the type of encapsulation mode.
Config-ID	Specifies an identifier to distinguish multiple tunnels with the same end points and same encapsulation method.
Checksum	Indicates if Checksum needs to be set in the GRE (Generic Routing Encapsulation) header for the GRE encapsulation method.
PMTU Discovery	Indicates if the Path MTU Discovery needs to be done for the given tunnel interface.
Direction	Indicates whether the uni-direction tunnel configured is **Incoming** or **Outgoing**.
PhyAlias	Denotes the VLAN Interface alias over which the tunnel is associated.
Security	Specifies the method used by the tunnel to secure the outer IP header.

7-7 Multicast Page

Figure 7-129. Multicast Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Statistics

Welcome to the Muliticast Page

The various Multicast features of the Supermicro switch can be configured through the links available in this page.

Through the IGMP Snooping link you can configure the IGS status and other related information.

Through the Dynamic multicast link you can configure the Dynamic Multicast status and other related information.

Through the IGMP link you can configure the IGMP status and other related information.

Through the PIM link you can configure the interfaces that are to be associated with PIM and also the candidate RP information.

Through the DVMRP link you can configure global DVMRP status and the Prune Lifetime.Also the individual DVMRP interface status can be configured.

Clicking the MULTICAST link on the navigation bar of the HOME page opens the MULTICAST page (Figure 7-129).

The MULTICAST page has links to the following configurations:

- IGMP Snooping Configuration
- Dynamic Multicast
- IGMP
- PIM
- DVMRP

IGMP Snooping Configuration

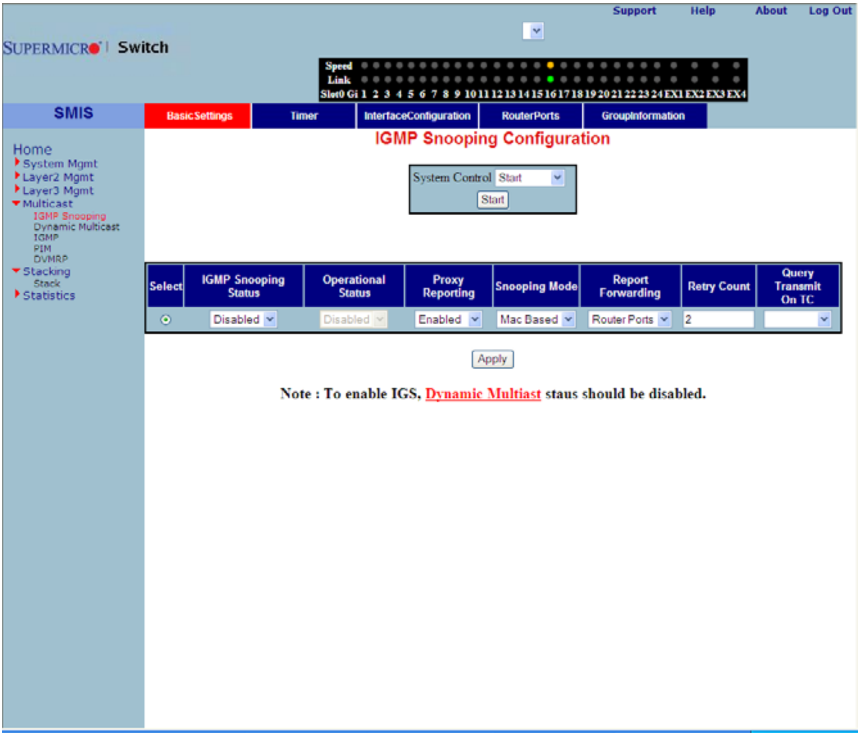
The IGMP Snooping link opens the IGMP SNOOPING CONFIGURATION page. This page uses the following control tabs to configure IGS:

- Basic Settings
- Timer
- Interface Configuration
- Router Ports
- Group Information

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-130. IGMP Snooping Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
Timer
InterfaceConfiguration
RouterPorts
GroupInformation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Start
Apply

IGMP Snooping Configuration

System Control: Start

Select	IGMP Snooping Status	Operational Status	Proxy Reporting	Snooping Mode	Report Forwarding	Retry Count	Query Transmit On TC
●	Disabled	Disabled	Enabled	Mac Based	Router Ports	2	

Note : To enable IGS, Dynamic Multiast staus should be disabled.

Clicking on the Basic Settings tab opens the IGMP Snooping Configuration page (Figure 7-130). Table 7-105 lists the parameters found on this page.

Table 7-105. IGMP Snooping Configuration Page Parameters

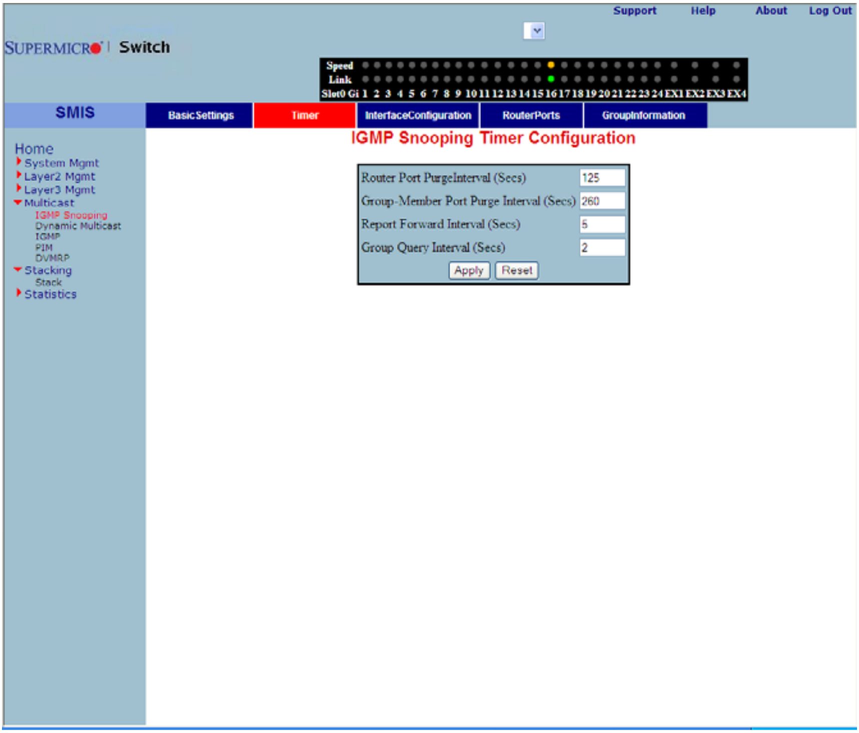
Parameter	Description
System Control	Allows you to **Start**/**Shutsdown** IGS in the switch.
IGMP Snooping Status	Allows you to have IGMP Snooping globally **Enabled**/**Disabled** in the switch. To enable IGMP Snooping, Dynamic Multicast Status must be **Disabled**.
Operational Status	Allows you to have IGMP snooping **Enabled**/**Disabled** operationally in the switch. To enable IGMP Snooping, Dynamic Multicast Status must be **Disabled**.
Proxy Reporting	Indicates whether the proxy reporting in the IGMP snooping switch is to be **Enabled**/**Disabled**.

Table 7-105. IGMP Snooping Configuration Page Parameters (Continued)

Parameter	Description
Snooping Mode	Specifies the IGMP snooping multicast forwarding mode, which can be configured using destination IP address or destination MAC address.
Report Forwarding	Specifies whether the IGMP reports are forwarded on **All Ports** or only on **Router Ports**.
Retry Count	Specifies the maximum number of group specific queries sent on a port on reception of an IGMPv2 leave message.
Query Transmit on TC	Specifies whether IGMP Snooping queries are transmitted whenever topology changes.

Timer

Figure 7-131. IGMP Snooping Timer Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
Timer
InterfaceConfiguration
RouterPorts
GroupInformation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Apply
Reset

IGMP Snooping Timer Configuration

Router Port PurgeInterval (Secs)	125
Group-Member Port Purge Interval (Secs)	260
Report Forward Interval (Secs)	5
Group Query Interval (Secs)	2

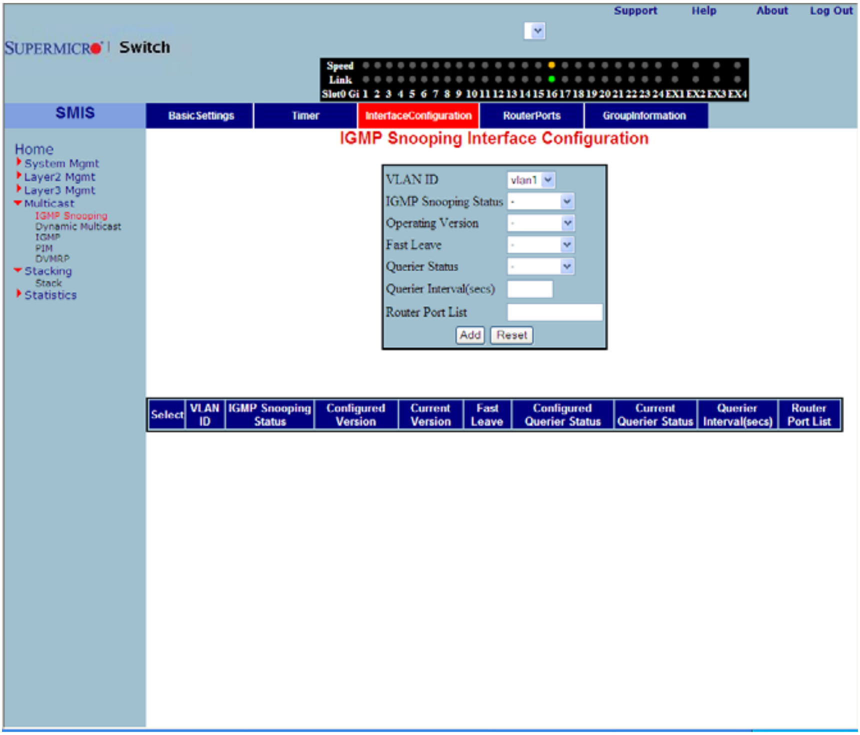
Clicking on the Timer tab opens the IGMP Snooping Timer Configuration page (Figure 7-131). Table 7-106 lists the parameters found on this page.

Table 7-106. IGMP Snooping Timer Configuration Page Parameters

Parameter	**Description**
Router Port PurgeInterval (Secs)	Specifies the interval for which the learnt router port will be purged.
Group-Member Port Purge Interval (Secs)	Specifies the interval after which a port gets deleted, if IGMP reports are not received on a port.
Report Forward Interval (Secs)	Specifies the interval within which the next report messages for the same multicast group will not be forwarded.
Group Query Interval (Secs)	Specifies the interval within which the switch sends a group specific query on a port when an IGMPv2 leave message is received.

Interface Configuration

Figure 7-132. IGMP Snooping Interface Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
Timer
InterfaceConfiguration
RouterPorts
GroupInformation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Add
Reset

IGMP Snooping Interface Configuration

VLAN ID: vlan1
IGMP Snooping Status: -
Operating Version: -
Fast Leave: -
Querier Status: -
Querier Interval(secs):
Router Port List:

Select	VLAN ID	IGMP Snooping Status	Configured Version	Current Version	Fast Leave	Configured Querier Status	Current Querier Status	Querier Interval(secs)	Router Port List

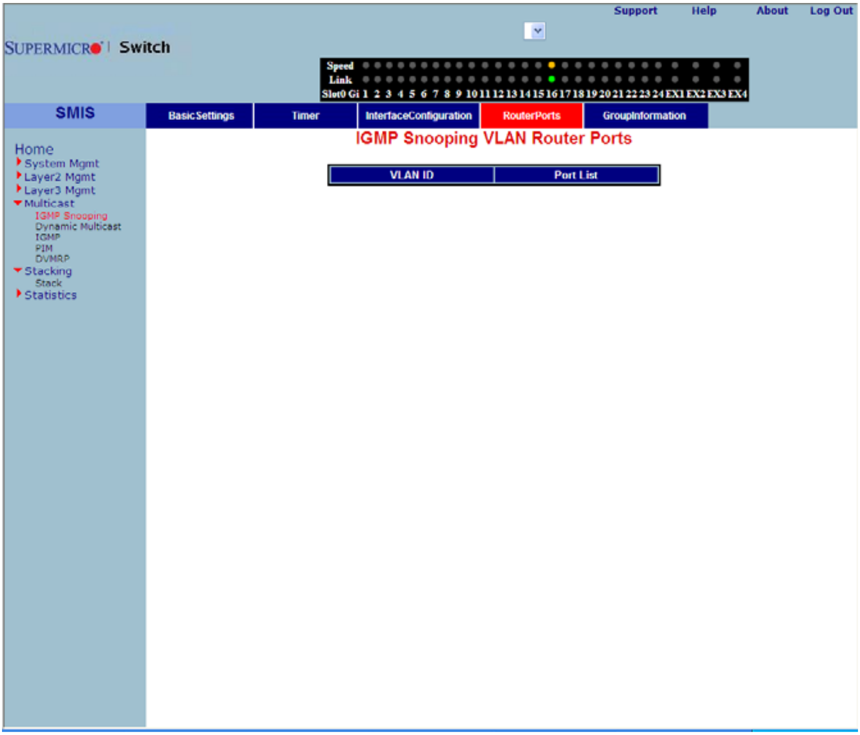
Clicking on the INTERFACE CONFIGURATION tab opens the IGMP SNOOPING INTERFACE CONFIGURATION page (Figure 7-132). Table 7-107 lists the parameters found on this page.

Table 7-107. IGMP Snooping Interface Configuration Page Parameters

Parameter	Description
VLAN ID	Specifies the VLAN ID for which the configuration is to be performed.
IGMP Snooping Status	Specifies the status of IGMP snooping in the Switch, which can be **Enabled**/**Disabled** for a specific VLAN.
Operating Version	Specifies the operating version of the IGMP snooping switch for a specific VLAN.
Fast Leave	Indicates whether the fast leave processing for a specific VLAN, is to be **Enabled**/**Disabled**.
Querier Status	Specifies whether the IGMP snooping switch is enabled/disabled as a querier for a specific VLAN.
Querier Interval (secs)	Specifies the time period for which general queries are sent by the IGMP snooping switch, when configured as querier on a VLAN.
Router Port List	Specifies the router port list for a specific VLAN.
Configured Version	Specifies the Configured IGMP Version on the given VLAN.
Current Version	Specifies the working IGMP Version on the given VLAN.
Configured Querier Status	Specifies the s configured querier status in the VLAN.
Current Querier Status	Specifies the current querier status in the VLAN.

Router Ports

Figure 7-133. IGMP Snooping VLAN Router Ports Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
Timer
InterfaceConfiguration
RouterPorts
GroupInformation
IGMP Snooping VLAN Router Ports
VLAN ID
Port List
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics

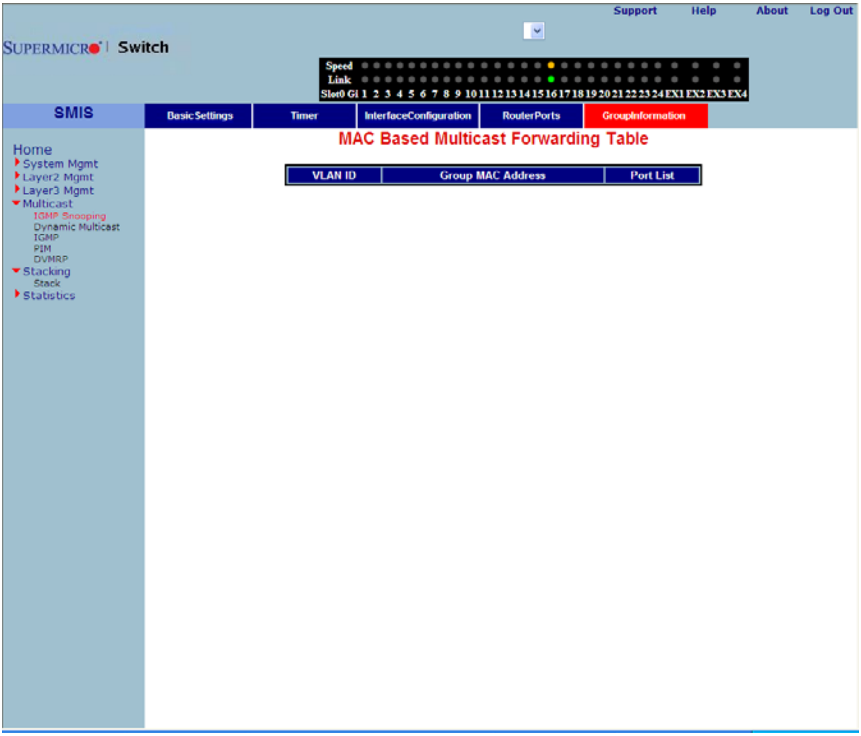
Clicking on the ROUTER PORTS tab opens the IGMP SNOOPING VLAN ROUTER PORTS page (Figure 7-133). Table 7-108 lists the parameters found on this page.

Table 7-108. IGMP Snooping VLAN Router Ports Page Parameters

Parameter	Description
VLAN ID	Specifies the VLAN ID.
Port List	Specifies the ports on which routers are connected for a specific VLAN.

Group Information

Figure 7-134. MAC Based Multicast Forwarding Table Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
BasicSettings
Timer
InterfaceConfiguration
RouterPorts
GroupInformation
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics

MAC Based Multicast Forwarding Table

VLAN ID	Group MAC Address	Port List

Clicking on the GROUP INFORMATION tab opens the MAC BASED MULTICAST FORWARDING TABLE page (Figure 7-134). Table 7-109 lists the parameters found on this page.

Table 7-109. MAC Based Multicast Forwarding Table Page Parameters

Parameter	Description
VLAN ID	Specifies the VLAN ID pertaining to the MAC based multicast forwarding entry.
Group MAC Address	Specifies the Group MAC Multicast address that is learnt.
Port List	Specifies the learnt ports.

Dynamic Multicast

The DYNAMIC MULTICAST link permits to enable/disable Dynamic Multicast at the switch level and also at the per-port level. This essentially gives more control over the switch to the users. Once you choose to enable the protocol on the switch, you can decide on the ports on which the protocol needs to run.

It is also possible to enable/disable Restricted Group Registration on a per-port level. This will enable you to restrict the multicast groups learnt through GMRP learning.

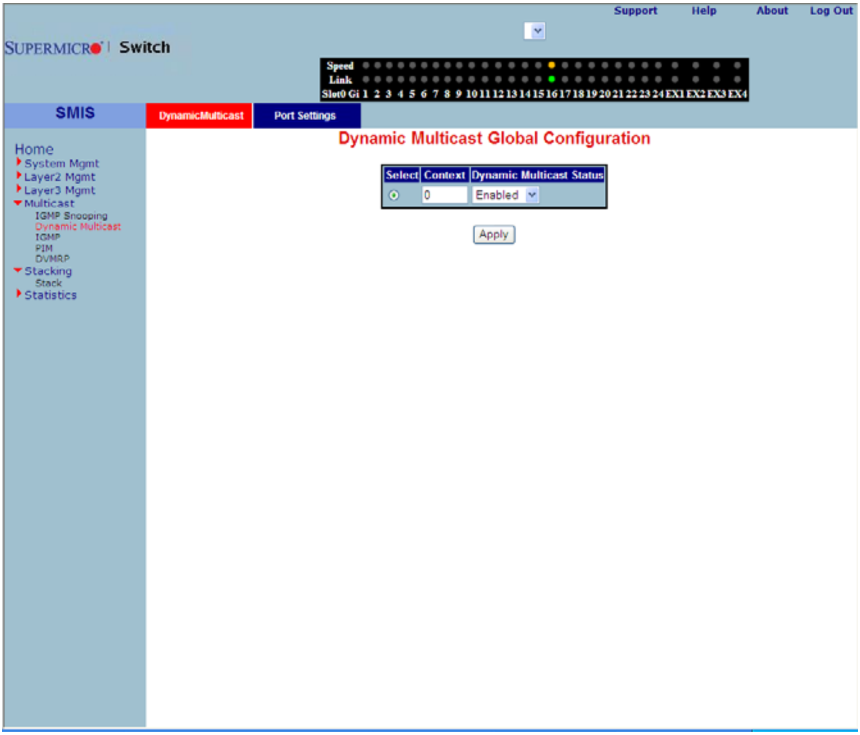
This page uses the following control tabs to configure the dynamic multicast:

- Dynamic Multicast
- Port Settings

By default, the DYNAMIC MULTICAST tab is loaded.

Dynamic Multicast

Figure 7-135. Dynamic Multicast Global Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
DynamicMulticast
Port Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Apply

Dynamic Multicast Global Configuration

Select	Context	Dynamic Multicast Status
●	0	Enabled

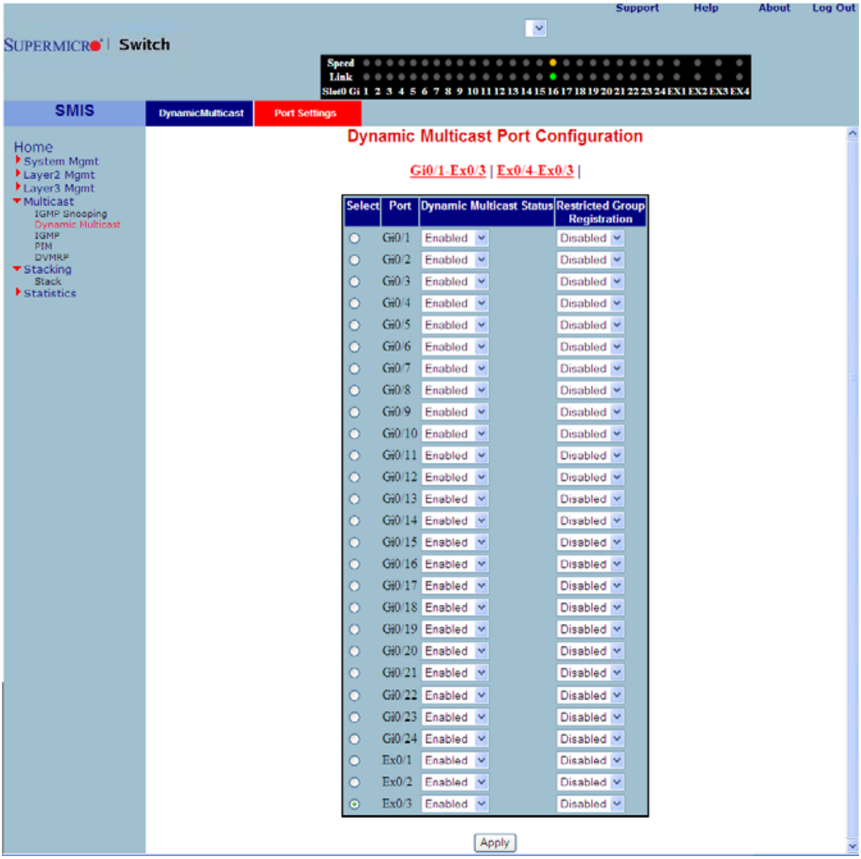
Clicking on the Dynamic Multicast tab opens the Dynamic Multicast Global Configuration page (Figure 7-135). Table 7-110 lists the parameters found on this page.

Table 7-110. Dynamic Multicast Global Configuration Page Parameters

Parameter	Description
Context	Specifies the Context ID.
Dynamic Multicast Status	Sets the Dynamic Multicast as **Enabled**/**Disabled**.

Port Settings

Figure 7-136. Dynamic Multicast Port Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
DynamicMulticast
Port Settings
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Apply

Dynamic Multicast Port Configuration

Select	Port	Dynamic Multicast Status	Restricted Group Registration
○	Gi0/1	Enabled	Disabled
○	Gi0/2	Enabled	Disabled
○	Gi0/3	Enabled	Disabled
○	Gi0/4	Enabled	Disabled
○	Gi0/5	Enabled	Disabled
○	Gi0/6	Enabled	Disabled
○	Gi0/7	Enabled	Disabled
○	Gi0/8	Enabled	Disabled
○	Gi0/9	Enabled	Disabled
○	Gi0/10	Enabled	Disabled
○	Gi0/11	Enabled	Disabled
○	Gi0/12	Enabled	Disabled
○	Gi0/13	Enabled	Disabled
○	Gi0/14	Enabled	Disabled
○	Gi0/15	Enabled	Disabled
○	Gi0/16	Enabled	Disabled
○	Gi0/17	Enabled	Disabled
○	Gi0/18	Enabled	Disabled
○	Gi0/19	Enabled	Disabled
○	Gi0/20	Enabled	Disabled
○	Gi0/21	Enabled	Disabled
○	Gi0/22	Enabled	Disabled
○	Gi0/23	Enabled	Disabled
○	Gi0/24	Enabled	Disabled
○	Ex0/1	Enabled	Disabled
○	Ex0/2	Enabled	Disabled
●	Ex0/3	Enabled	Disabled

Clicking on the PORT SETTINGS tab opens the DYNAMIC MULTICAST PORT CONFIGURATION page (Figure 7-136). Table 7-111 lists the parameters found on this page.

Table 7-111. Dynamic Multicast Port Configuration Page Parameters

Parameter	Description
Port	Specifies the Interface index.
Dynamic Multicast Status	Sets the Dynamic Multicast on a per port basis as **Enabled**/**Disabled**.
Restricted Group Registration	Sets Restricted Group Registration on a per-port basis as **Enabled/ Disabled**.

IGMP

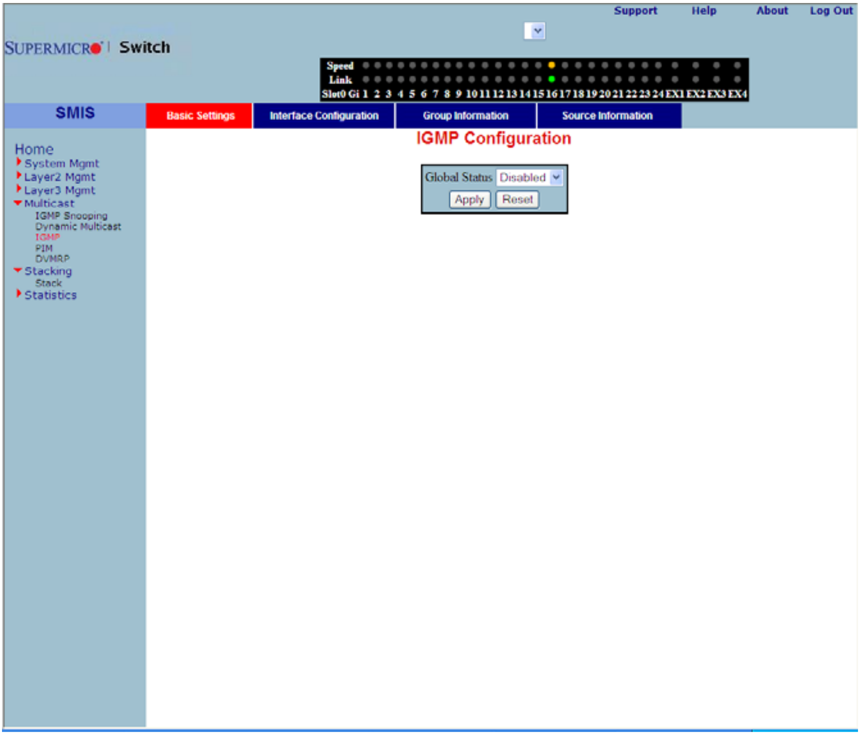
Clicking the IGMP link allows you to configure the IGMP protocol. The IGMP protocol in the switch can be configured through the following control tabs:

- Basic Settings
- Interface Configuration
- Group Information
- Source Information

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-137. IGMP Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Configuration
Group Information
Source Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Apply
Reset

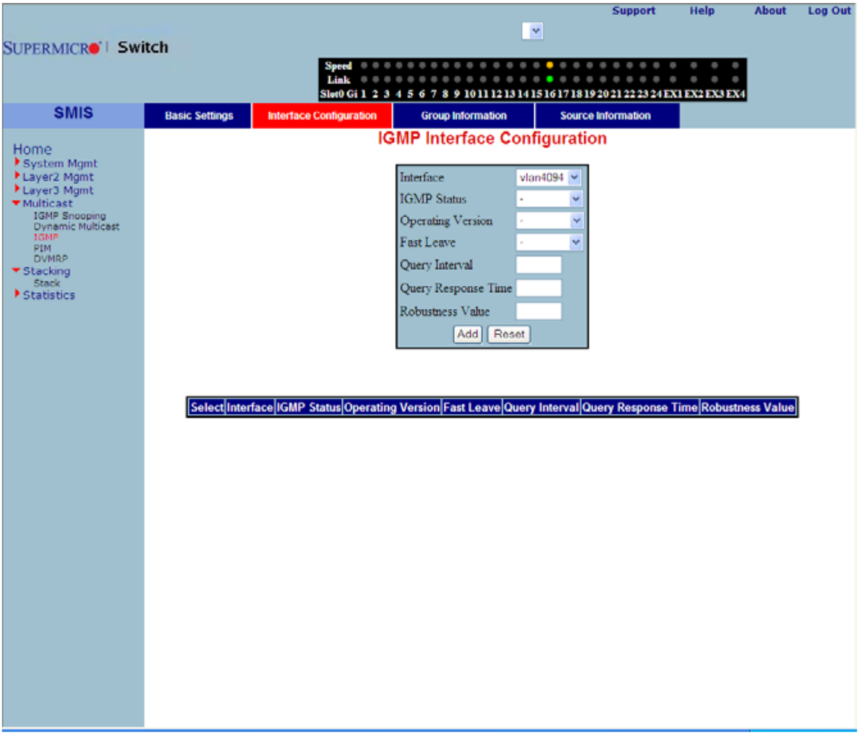
IGMP Configuration

Global Status: Disabled

Clicking on the BASIC SETTINGS tab opens the IGMP CONFIGURATION page (Figure 7-137). The only parameter on this page is **Global Status**, which enables/disables IGMP in the switch.

Interface Configuration

Figure 7-138. IGMP Interface Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Configuration
Group Information
Source Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Add
Reset

IGMP Interface Configuration

Interface: vlan4094
IGMP Status: -
Operating Version: -
Fast Leave: -
Query Interval:
Query Response Time:
Robustness Value:

Select	Interface	IGMP Status	Operating Version	Fast Leave	Query Interval	Query Response Time	Robustness Value

Clicking on the INTERFACE CONFIGURATION tab opens the IGMP INTERFACE CONFIGURATION page (Figure 7-138). Table 7-112 lists the parameters found on this page.

Table 7-112. IGMP Interface Configuration Page Parameters

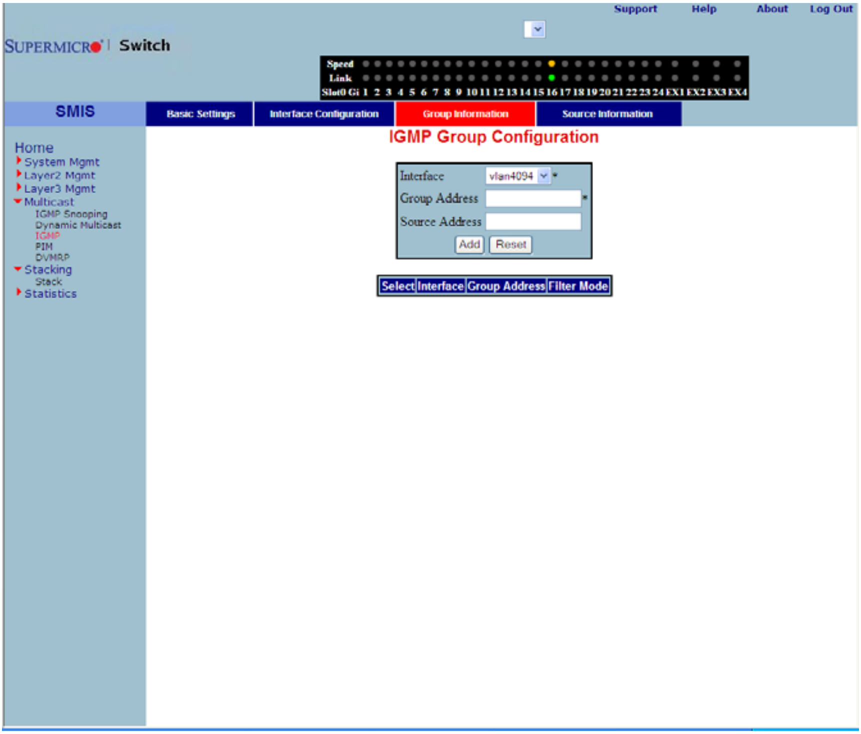
Parameter	Description
Interface	Specifies the interface index.
IGMP Status	Specifies the IGMP Status.
Operating Version	Allows you to run either in the **IGMP Version 1**, **IGMP Version 2** or **IGMP Version 3** on per interface basis.
Fast Leave	Indicates whether the fast leave processing for a specific interface, is to be **Enabled**/**Disabled**.
Query Interval	Indicates the interval between two successive IGMP queries.

Table 7-112. IGMP Interface Configuration Page Parameters (Continued)

Parameter	Description
Query Response Time	Specifies the response time for IGMP queries.
Robustness Value	Specifies the Robustness value on this interface.

Group Information

Figure 7-139. IGMP Group Configuration Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Configuration
Group Information
Source Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
IGMP Group Configuration
Interface
vlan4094
Group Address
Source Address
Add
Reset
Select
Interface
Group Address
Filter Mode

The GROUP INFORMATION tab opens the IGMP GROUP CONFIGURATION page (Figure 7-139). Table 7-113 lists the parameters found on this page.

Table 7-113. IGMP Group Configuration Page Parameters

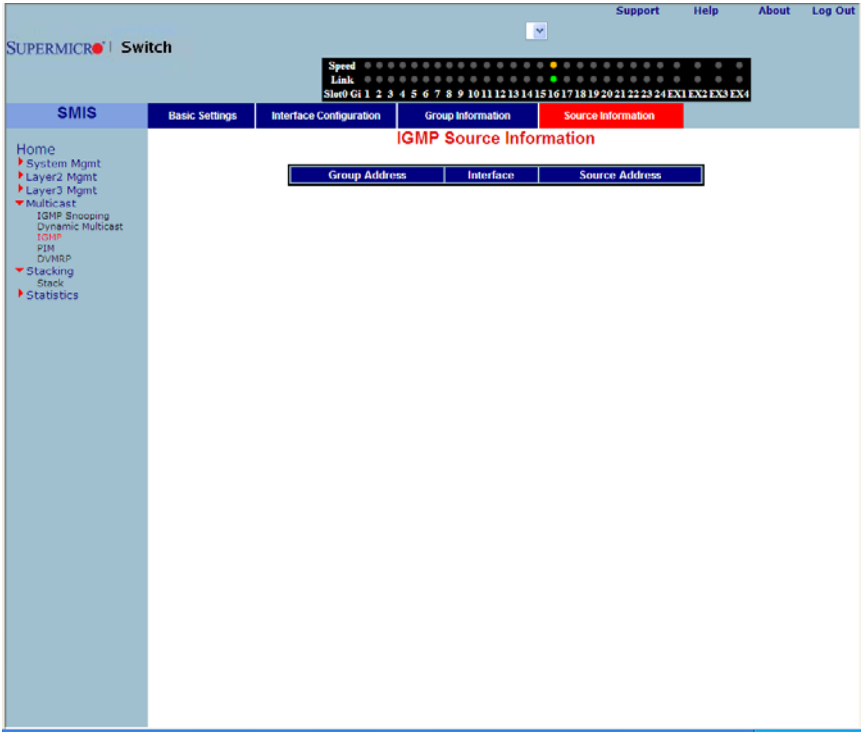
Parameter	Description
Interface	Specifies the interface index.
Group Address	Specifies the IP multicast group address.

Table 7-113. IGMP Group Configuration Page Parameters (Continued)

Parameter	Description
Source Address	Represents the IP Source address (source configuration is allowed only when the operating version is **v3** on this interface).
Filter Mode	Specifies the Filter mode.

Source Information

Figure 7-140. IGMP Source Information Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interface Configuration
Group Information
Source Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
IGMP Source Information

Group Address	Interface	Source Address

Clicking on the SOURCE INFORMATION tab opens the IGMP SOURCE INFORMATION page (Figure 7-140). Table 7-114 lists the parameters found on this page.

Table 7-114. IGMP Source Information Page Parameters

Parameter	Description
Group Address	Specifies the IP Multicast group address.

Table 7-114. IGMP Source Information Page Parameters (Continued)

Parameter	Description
Interface	Specifies the interface index.
Source Address	Represents the IP Source address.

NOTE: The IGMP Source information can be displayed only when the operating version is configured as IGMPv3.

PIM

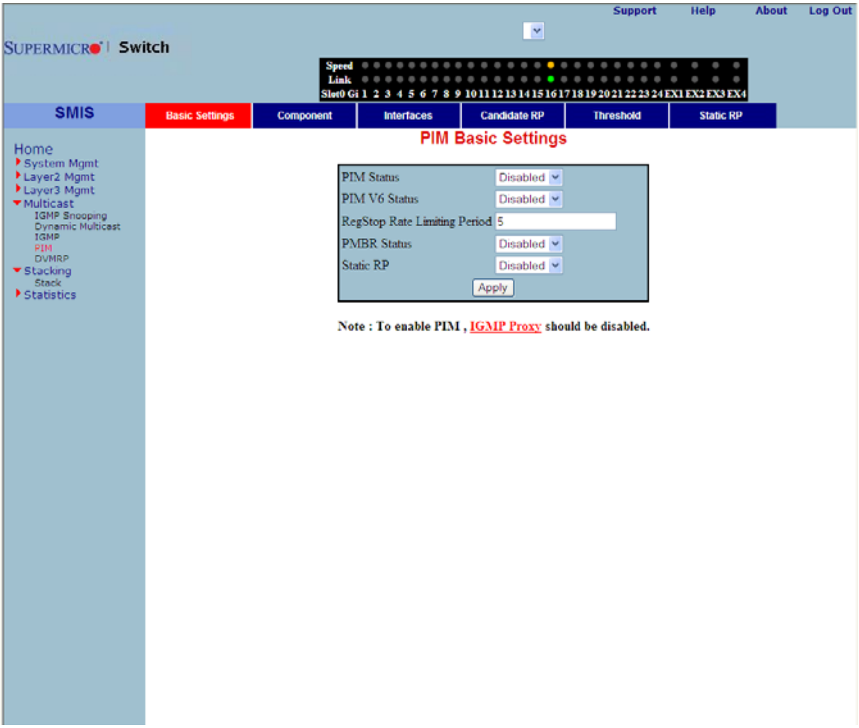
The PIM link allows to perform PIM related configuration. This can be accomplished through the following control tabs:

- Basic Settings
- Component
- Interfaces
- Candidate RP
- Threshold
- Static RP

By default, the BASIC SETTINGS tab is loaded.

Basic Settings

Figure 7-141. PIM Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Component
Interfaces
Candidate RP
Threshold
Static RP
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Apply

PIM Basic Settings

PIM Status	Disabled
PIM V6 Status	Disabled
RegStop Rate Limiting Period	5
PMBR Status	Disabled
Static RP	Disabled

Note : To enable PIM , IGMP Proxy should be disabled.

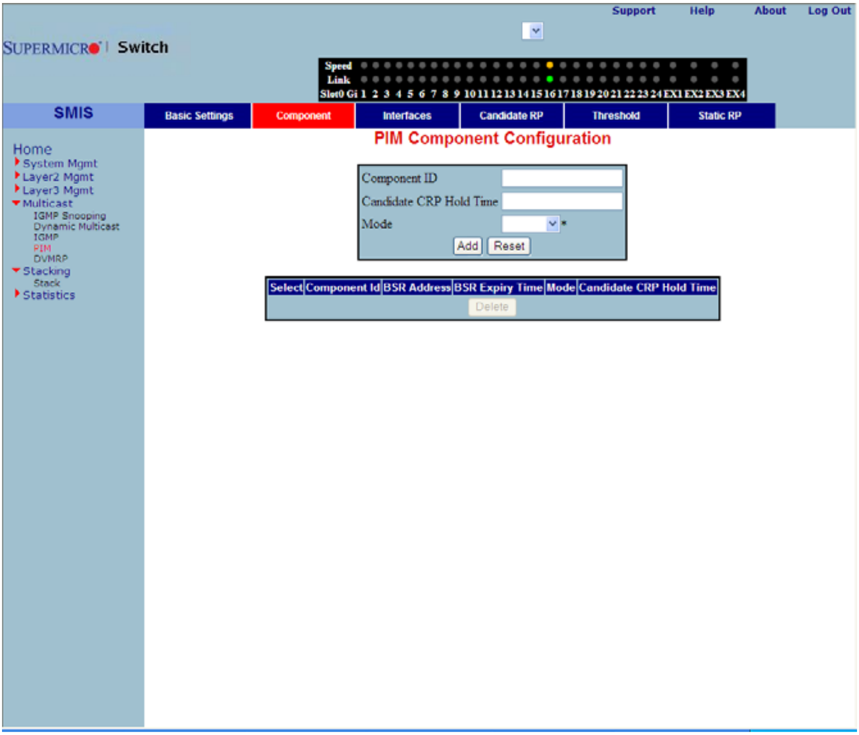
Clicking on the BASIC SETTINGS tab opens the PIM BASIC SETTINGS page (Figure 7-141). Table 7-115 lists the parameters found on this page.

Table 7-115. PIM Basic Settings Page Parameters

Parameter	Description
PIM Status	Specifies PIM status in switch.
PIM V6 Status	
RegStop Rate Limiting Period	
PMBR Status	
Static RP	

Component

Figure 7-142. PIM Component Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Component
Interfaces
Candidate RP
Threshold
Static RP
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
PIM Component Configuration
Component ID
Candidate CRP Hold Time
Mode
Add
Reset
Select
Component Id
BSR Address
BSR Expiry Time
Mode
Candidate CRP Hold Time
Delete

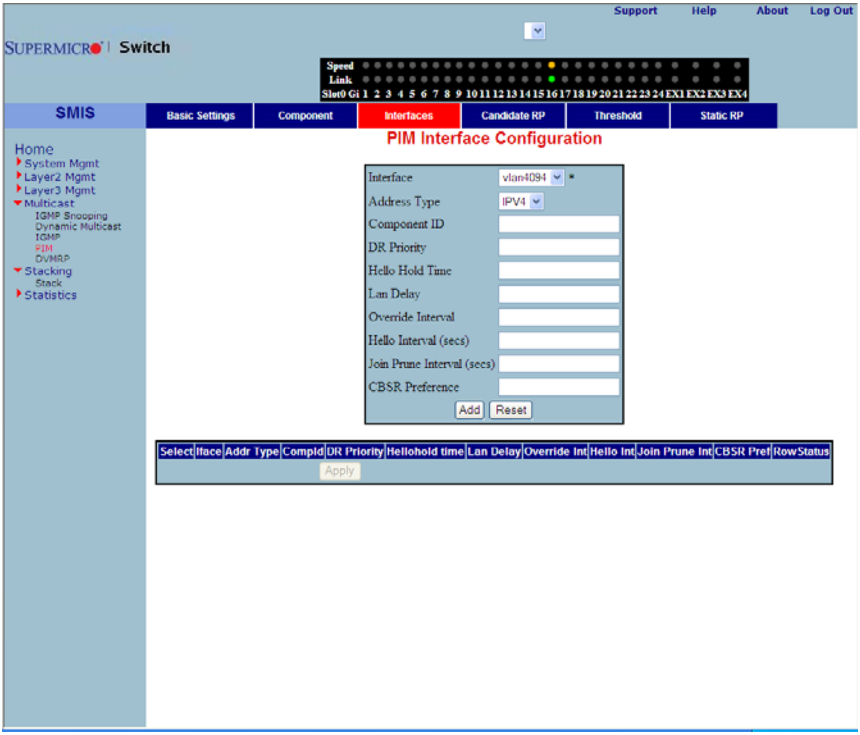
Clicking on the COMPONENT tab opens the PIM COMPONENT CONFIGURATION page (Figure 7-142). Table 7-116 lists the parameters found on this page.

Table 7-116. PIM Component Configuration Page Parameters

Parameter	**Description**
Component ID	Specifies a number uniquely identifying the component.
Candidate CRP Hold Time	Specifies the hold time of the component when it is a candidate RP in the local domain.
Mode	Specifies the mode of the component. It can be either **Sparse** or **Dense**.
BSR (Bootstrap Router) Address	Specifies the IP address of the bootstrap router for the local PIM region. This is a read-only field.
BSR Expiry Time	Indicates the minimum time remaining before the bootstrap router in the local domain is declared down. This is a read-only field.

Interfaces

Figure 7-143. PIM Interface Configuration Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Component
Interfaces
Candidate RP
Threshold
Static RP
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
PIM Interface Configuration
Component ID
DR Priority
Hello Hold Time
Lan Delay
Override Interval
Hello Interval (secs)
Join Prune Interval (secs)
CBSR Preference
Add
Reset
Select
Iface
Addr Type
CompId
DR Priority
Hellohold time
Lan Delay
Override Int
Hello Int
Join Prune Int
CBSR Pref
RowStatus
Apply

Interface: vlan4094 *

Address Type: IPV4

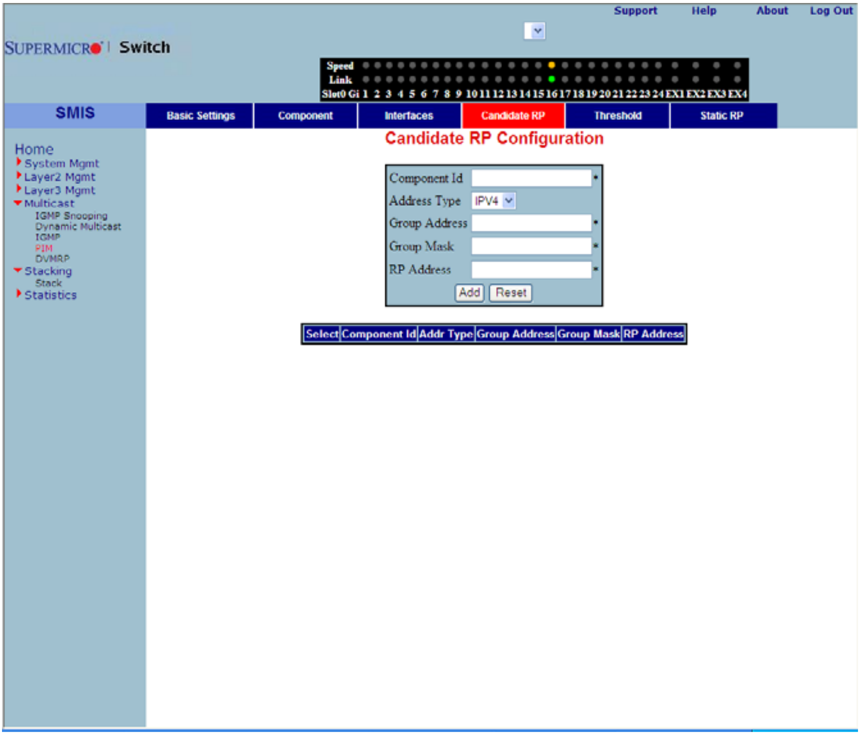
Clicking on the INTERFACES tab opens the PIM INTERFACE CONFIGURATION page (Figure 7-143). Table 7-117 lists the parameters found on this page.

Table 7-117. PIM Interface Configuration Page Parameters

Parameter	Description
Interface	Specifies the interface index.
Component ID	Specifies a number uniquely identifying the component.
Hello Interval (Seconds)	Specifies the time interval between two successive Hello messages being sent by PIM on this interface.
Join Prune Interval (Seconds)	Specifies the time interval between two successive Join/Prune messages being sent by PIM on this interface.
CBSR Preference	Indicates the preference value for the local interface as a candidate bootstrap router.
Row Status	Indicates the operational status of the entry.

Candidate RP

Figure 7-144. Candidate RP Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Component
Interfaces
Candidate RP
Threshold
Static RP
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Candidate RP Configuration
Component Id
Group Address
Group Mask
RP Address
Add
Reset

Address Type: IPV4

Select	Component Id	Addr Type	Group Address	Group Mask	RP Address

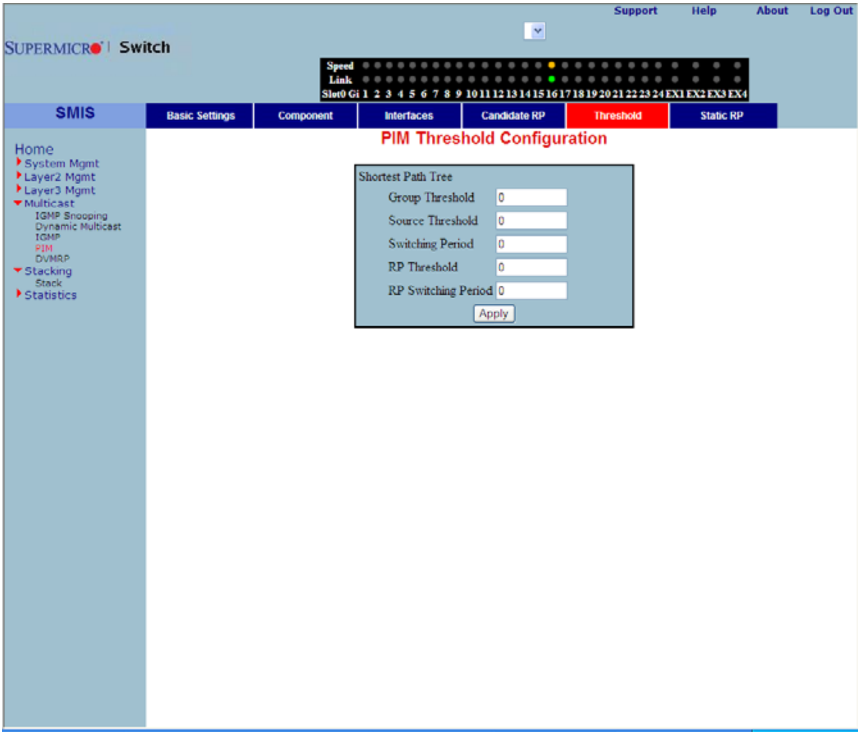
Clicking on the Candidate RP tab (Rendezvous Point) opens the Candidate RP Configuration page (Figure 7-144). Table 7-118 lists the parameters found on this page.

Table 7-118. Candidate RP Configuration Page Parameters

Parameter	Description
Component Id	Specifies a number uniquely identifying the component.
Group Address	Represents the multicast group, for which the switch advertises itself as the candidate RP.
Group Mask	Specifies the subnet mask, which when combined with the group address gives the group prefix.
RP Address	Represents the IP address of the Candidate-RP.

Threshold

Figure 7-145. PIM Threshold Configuration Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Component
Interfaces
Candidate RP
Threshold
Static RP
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Apply

PIM Threshold Configuration

Shortest Path Tree

Group Threshold	0
Source Threshold	0
Switching Period	0
RP Threshold	0
RP Switching Period	0

Clicking on the THRESHOLD tab opens the PIM THRESHOLD CONFIGURATION page (Figure 7-145). Table 7-119 lists the parameters found on this page.

Table 7-119. PIM Threshold Configuration Page Parameters

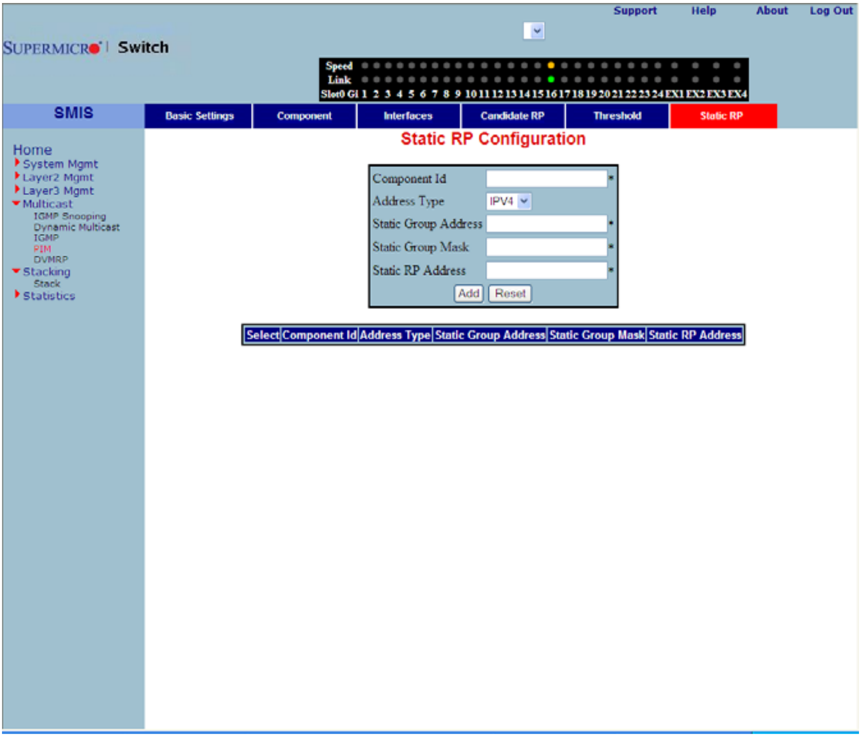
Parameter	Description
Group Threshold	Represents a BPS (Bits-per-second) value, which when exceeded, initiates source specific counters for a particular group.
Source Threshold	Represents a BPS value, which when exceeded, initiates switching to shortest path tree.
Switching Period	Indicates the time interval for which the data rate is monitored for initiating the counters, or for switching to SPT (Shortest Path Tree).

Table 7-119. PIM Threshold Configuration Page Parameters (Continued)

Parameter	Description
RP Threshold	Indicates the threshold value for the number of registered packets received, which when exceeded, RP initiates switching to source specific shortest path.
RP Switching Period	Indicates the time interval for which the registered packets are monitored to initiate switching to SPT.

Static RP

Figure 7-146. Static RP Configuration Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Component
Interfaces
Candidate RP
Threshold
Static RP
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Add
Reset

Static RP Configuration

Component Id *
Address Type IPV4
Static Group Address *
Static Group Mask *
Static RP Address *

Select	Component Id	Address Type	Static Group Address	Static Group Mask	Static RP Address

Clicking on the STATIC RP tab opens the STATIC RP CONFIGURATION page (Figure 7-146). Table 7-120 lists the parameters found on this page.

Table 7-120. Static RP Configuration Page Parameters

Parameter	Description
Component ID	
Address Type	
Static Group Address	
Static Group Mask	
Static RP Address	

DVMRP

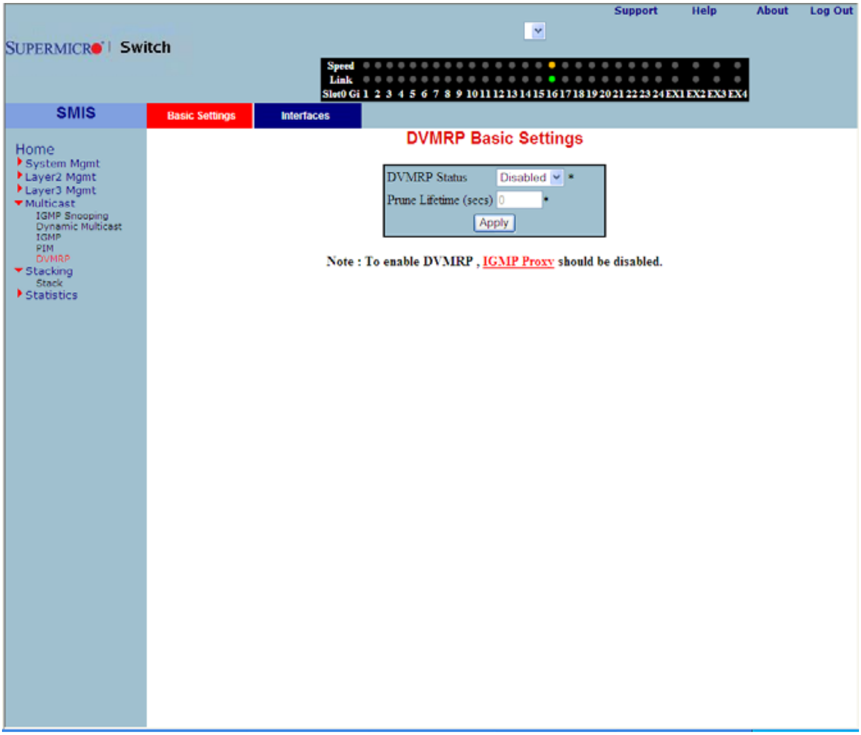
Clicking the DVMRP link allows you to configure the DVMRP protocol. This protocol in the switch can be configured using the following control tabs:

- Basic Settings
- Interface

By default, the BASIC SETTINGS control tab is loaded.

Basic Settings

Figure 7-147. DVMRP Basic Settings Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interfaces
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Apply

DVMRP Basic Settings

DVMRP Status: Disabled *

Prune Lifetime (secs): 0 *

Note : To enable DVMRP , IGMP Proxy should be disabled.

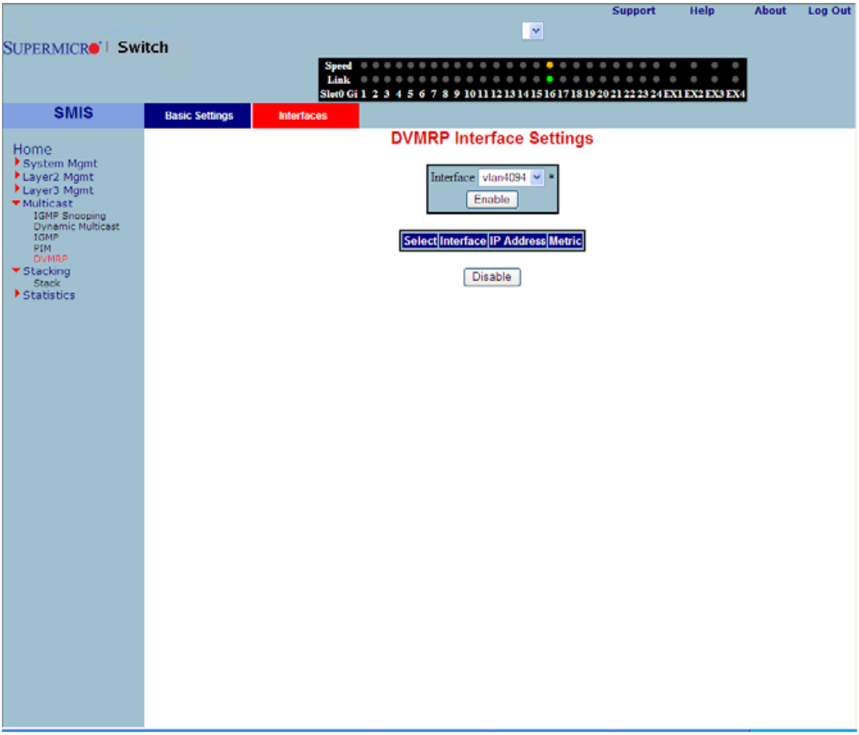
Clicking on the Basic Settings tab opens the DVMRP Basic Settings page (Figure 7-147). Table 7-121 lists the parameters found on this page.

Table 7-121. VMRP Basic Settings Page Parameters

Parameter	**Description**
DVMRP Status	Sets DVMRP in the switch as **Enabled**/**Disabled**.
Prune Lifetime	Represents the Prune Life Time configuration value (in seconds).

Interface

Figure 7-148. DVMRP Interface Settings Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Basic Settings
Interfaces
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
DVMRP Interface Settings
Enable
Select
Interface
IP Address
Metric
Disable

Interface vlan4094 *

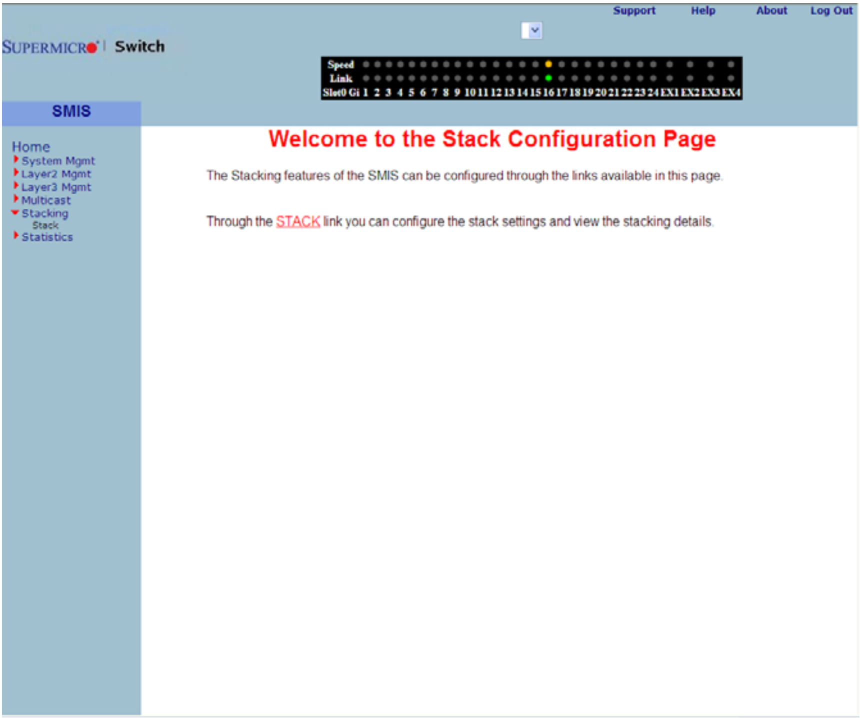
Clicking on the INTERFACES tab opens the DVMRP INTERFACE SETTINGS page (Figure 7-148). Table 7-122 lists the parameters found on this page.

Table 7-122. DVMRP Interface Settings Page Parameters

Parameter	Description
Interface	Specifies the Interface Index.
IP Address	Specifies the IP Address of the interface. This is a read-only field.
Metric	Specifies the distance metric for this interface. This is used to calculate distance vectors and this is a read-only field.

7-8 Stack Configuration Page

Figure 7-149. Stacking Configuration Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Stack
Statistics

Welcome to the Stack Configuration Page

The Stacking features of the SMIS can be configured through the links available in this page.

Through the STACK link you can configure the stack settings and view the stacking details.

Clicking the STACKING link on the navigation bar of the HOME page opens the STACK CONFIGURATION page (Figure 7-129).

This page has a single link to the Stack configuration.

Stack

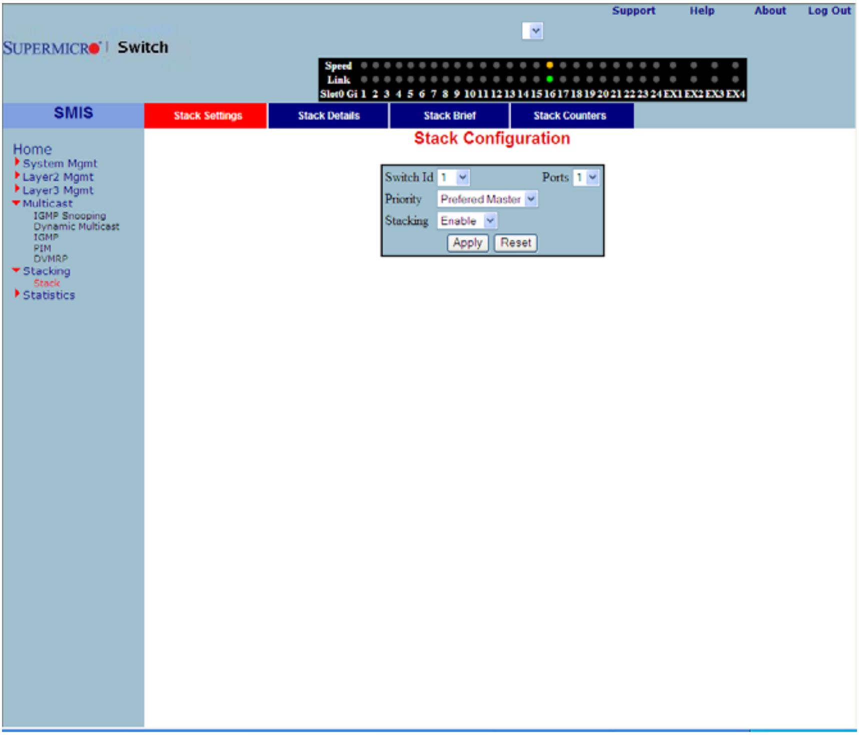
Clicking the STACK link allows you to configure the Stack configuration, which can be configured using the following control tabs:

- Stack Settings
- Stack Details
- Stack Brief
- Stack Counters

The STACK SETTINGS tab is the default.

Stack Settings

Figure 7-150. Stack Configuration Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Stack Settings
Stack Details
Stack Brief
Stack Counters
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics
Stack Configuration
Apply
Reset

Switch Id 1 Ports 1

Priority Prefered Master

Stacking Enable

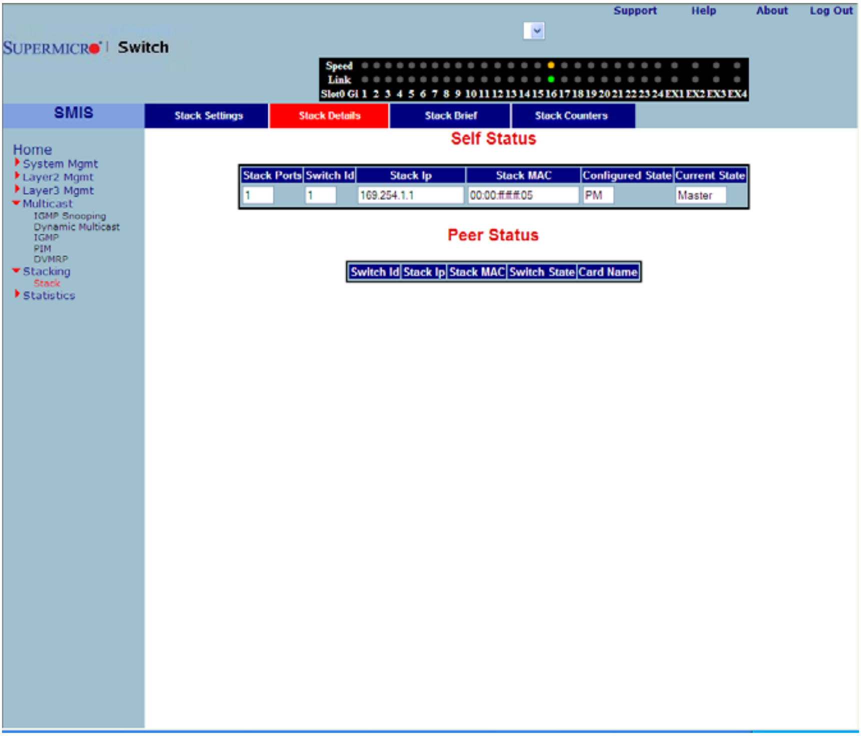
Clicking on the STACK SETTINGS tab brings up the STACK CONFIGURATION page (Figure 7-150). Table 7-123 lists the parameters found on this page.

Table 7-123. Stack Configuration Page Parameters

Parameter	Description
Switch ID	Unique number to identify switches. Make sure to use different switch identifier for stack member switches.
Ports	The number of stacking ports. It is recommended to use two ports for stacking to connect all stacking switches in daisy chain.
Priority	Priority of the switch to decide the master among stacked switches. PM denotes preferred master. BM denotes backup master. PS denotes preferred slave.
Stacking	Used to **Enable** or **Disable** switch stacking. Default is **Disable**.

Stack Details

Figure 7-151. Stack Details Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Stack Settings
Stack Details
Stack Brief
Stack Counters
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics

Self Status

Stack Ports	Switch Id	Stack Ip	Stack MAC	Configured State	Current State
1	1	169.254.1.1	00:00:ff:ff:ff:05	PM	Master

Peer Status

Switch Id	Stack Ip	Stack MAC	Switch State	Card Name

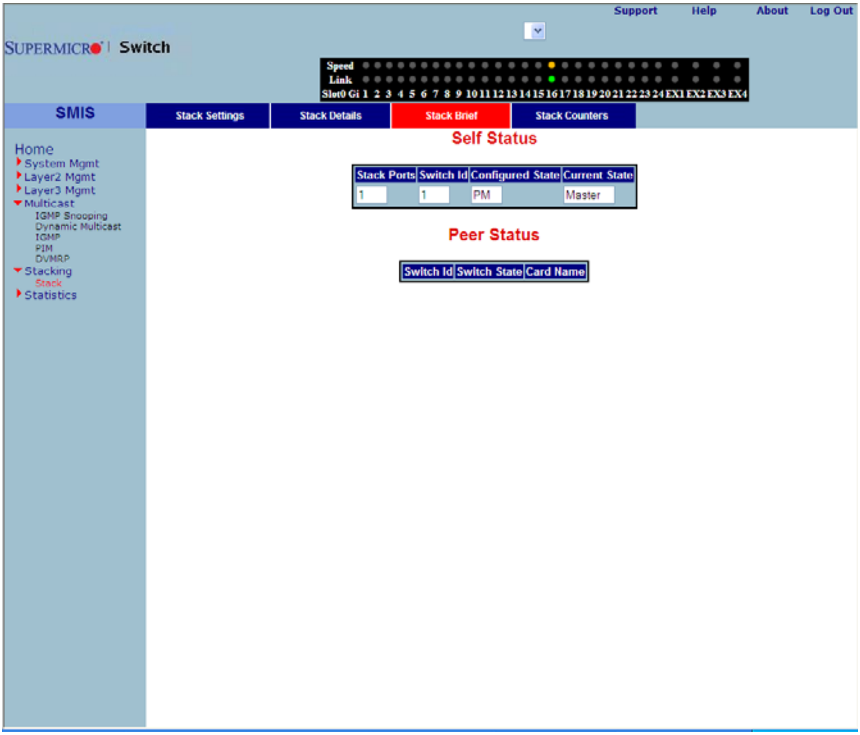
Clicking on the STACK DETAILS tab brings up the STACK DETAILS page (Figure 7-151). Table 7-124 lists the parameters found on this page.

Table 7-124. Stack Details Page Parameters

Parameter	Description
Stack Ports	The number of stacking ports. It is recommended to use two ports for stacking to connect all stacking switches in daisy chain.
Switch ID	Unique number to identify switches. Make sure to use different switch identifier for stack member switches.
Stack Up	
Stack MAC	
Configured State	
Current State	

Stack Brief

Figure 7-152. Stack Brief Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Stack Settings
Stack Details
Stack Brief
Stack Counters
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics

Self Status

Stack Ports	Switch Id	Configured State	Current State
1	1	PM	Master

Peer Status

Switch Id	Switch State	Card Name

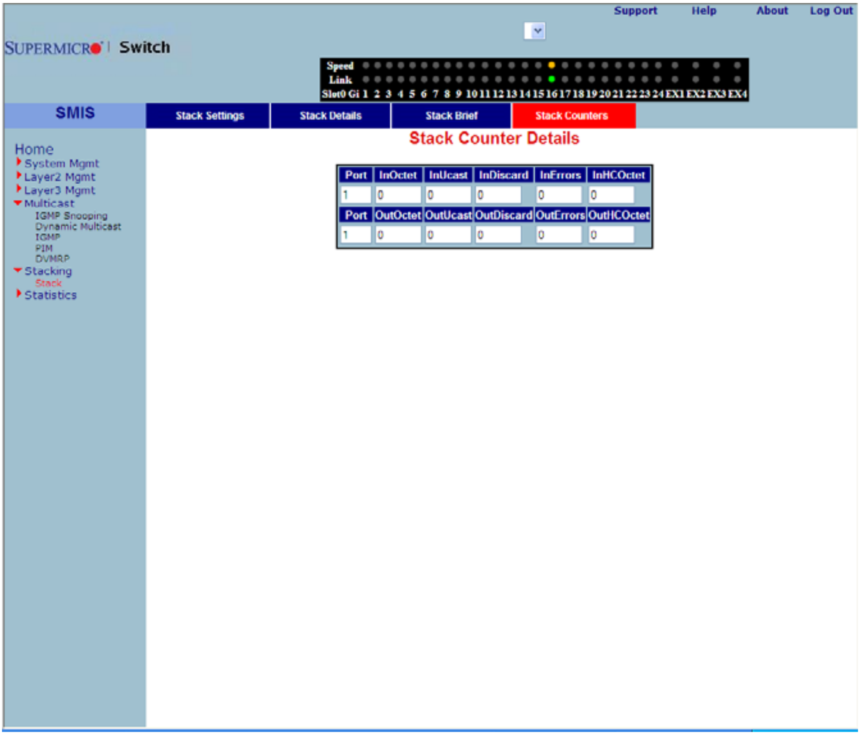
Clicking on the STACK BRIEF tab brings up the STACK BRIEF page (Figure 7-152). Table 7-125 lists the parameters found on this page.

Table 7-125. Stack Brief Page Parameters

Parameter	Description
Stack Ports	The number of stacking ports. It is recommended to use two ports for stacking to connect all stacking switches in daisy chain.
Switch ID	Unique number to identify switches. Make sure to use different switch identifier for stack member switches.
Configured State	
Current State	

Stack Counters

Figure 7-153. Stack Counter Details Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Stack Settings
Stack Details
Stack Brief
Stack Counters
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
IGMP Snooping
Dynamic Multicast
IGMP
PIM
DVMRP
Stacking
Stack
Statistics

Stack Counter Details

Port	InOctet	InUcast	InDiscard	InErrors	InHCOctet
1	0	0	0	0	0
Port	**OutOctet**	**OutUcast**	**OutDiscard**	**OutErrors**	**OutHCOctet**
1	0	0	0	0	0

Clicking on the STACK COUNTERS tab brings up the STACK COUNTER DETAILS page (Figure 7-153). Table 7-126 lists the parameters found on this page.

Table 7-126. Stack Counter Details Page Parameters

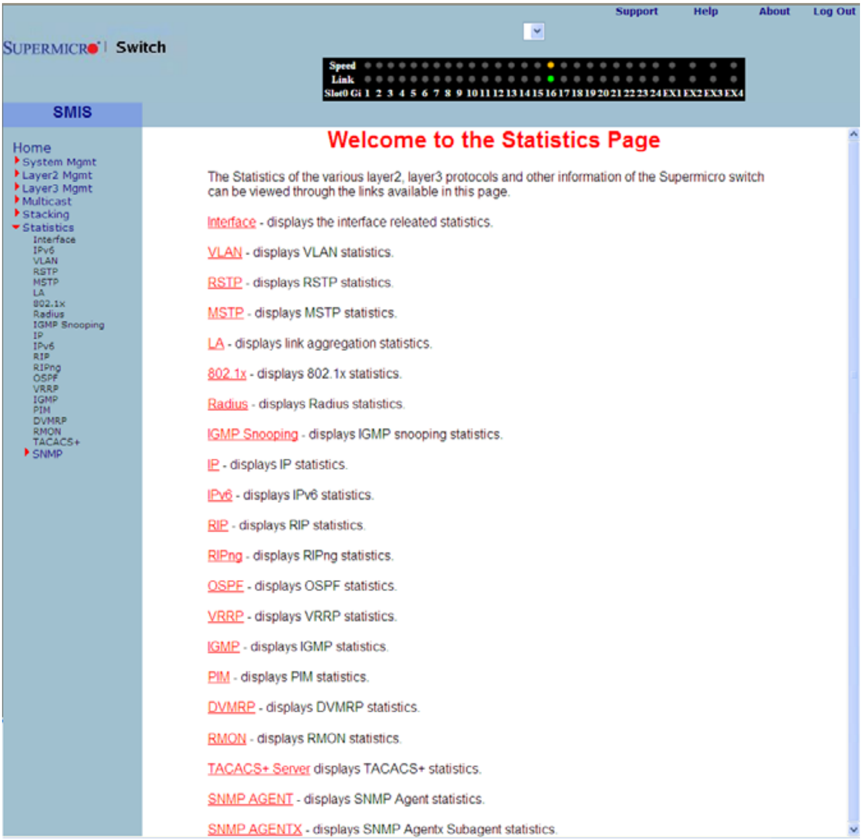
Parameter	Description
Port	
InOctet	
OutOctet	
InUcast	
OutUcast	
InDiscard	
OutDiscard	
InErrors	

Table 7-126. Stack Counter Details Page Parameters (Continued)

Parameter	Description
OutErrors	
InHCOctet	
OutHCOctet	

7-9 Statistics Page

Figure 7-154. Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP

Welcome to the Statistics Page

The Statistics of the various layer2, layer3 protocols and other information of the Supermicro switch can be viewed through the links available in this page.

Interface - displays the interface releated statistics.

VLAN - displays VLAN statistics.

RSTP - displays RSTP statistics.

MSTP - displays MSTP statistics.

LA - displays link aggregation statistics.

802.1x - displays 802.1x statistics.

Radius - displays Radius statistics.

IGMP Snooping - displays IGMP snooping statistics.

IP - displays IP statistics.

IPv6 - displays IPv6 statistics.

RIP - displays RIP statistics.

RIPng - displays RIPng statistics.

OSPF - displays OSPF statistics.

VRRP - displays VRRP statistics.

IGMP - displays IGMP statistics.

PIM - displays PIM statistics.

DVMRP - displays DVMRP statistics.

RMON - displays RMON statistics.

TACACS+ Server displays TACACS+ statistics.

SNMP AGENT - displays SNMP Agent statistics.

SNMP AGENTX - displays SNMP Agentx Subagent statistics.

Clicking on the STATISTICS link in the navigation bar of the HOME page allows you to view the statistics of the various layer 2 and layer 3 protocols and other information in the STATISTICS page (Figure 7-154).

The various statistics page links available for the L3 Module are:

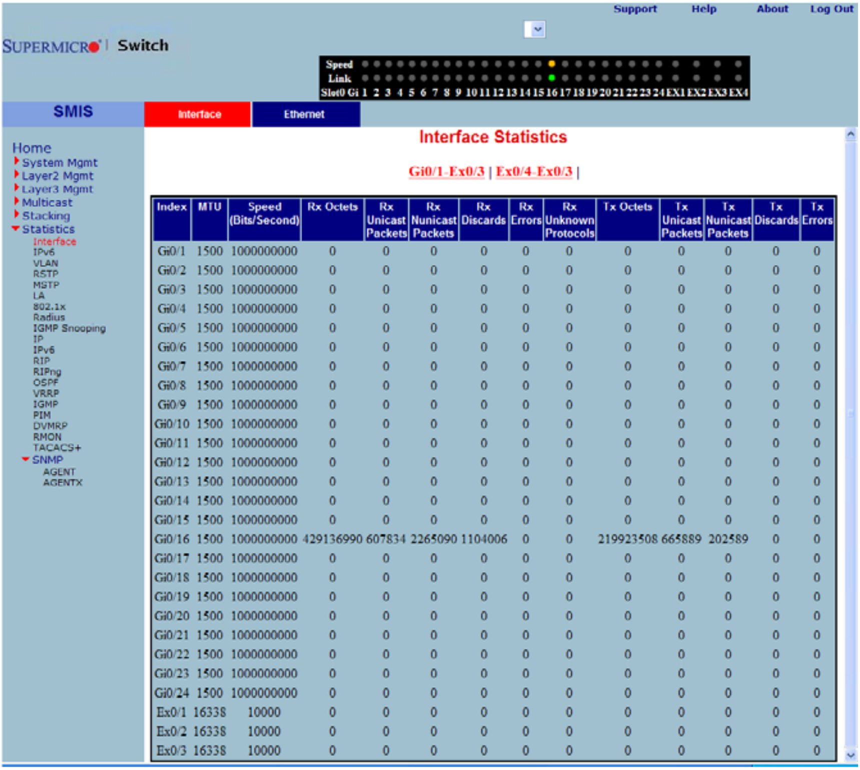
- Interface
- IPv6
- VLAN
- RSTP
- MSTP
- LA
- 802.1x
- Radius
- IGMP Snooping
- IP
- RIP
- RIPng
- OSPF
- VRRP
- IGMP
- PIM
- DVMRP
- RMON
- TACACS+
- SNMP

Interface

Clicking the INTERFACE link allows you to view both Interface and Ethernet statistics control tabs. By default, the INTERFACE STATISTICS control tab is loaded.

Interface

Figure 7-155. Interface Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Interface
Ethernet
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

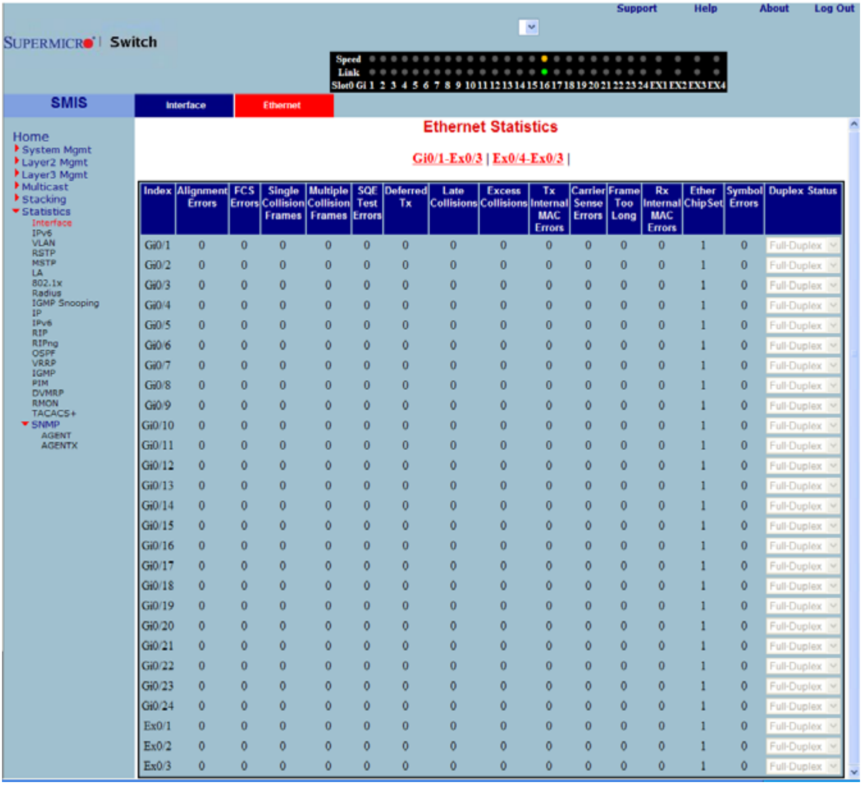
Interface Statistics

Index	MTU	Speed (Bits/Second)	Rx Octets	Rx Unicast Packets	Rx Nunicast Packets	Rx Discards	Rx Errors	Rx Unknown Protocols	Tx Octets	Tx Unicast Packets	Tx Nunicast Packets	Tx Discards	Tx Errors
Gi0/1	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/2	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/3	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/4	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/5	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/6	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/7	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/8	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/9	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/10	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/11	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/12	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/13	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/14	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/15	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/16	1500	1000000000	429136990	607834	2265090	1104006	0	0	219923508	665889	202589	0	0
Gi0/17	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/18	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/19	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/20	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/21	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/22	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/23	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Gi0/24	1500	1000000000	0	0	0	0	0	0	0	0	0	0	0
Ex0/1	16338	10000	0	0	0	0	0	0	0	0	0	0	0
Ex0/2	16338	10000	0	0	0	0	0	0	0	0	0	0	0
Ex0/3	16338	10000	0	0	0	0	0	0	0	0	0	0	0

The INTERFACE STATISTICS page (Figure 7-155) is displayed when you click the INTERFACE tab and shows management information applicable to all the interfaces available in the switch.

Ethernet

Figure 7-156. Ethernet Statistics Page


Support
Help
About
Log Out
SUPERMICR● Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Interface
Ethernet
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

Ethernet Statistics

Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Index	Alignment Errors	FCS Errors	Single Collision Frames	Multiple Collision Frames	SQE Test Errors	Deferred Tx	Late Collisions	Excess Collisions	Tx Internal MAC Errors	Carrier Sense Errors	Frame Too Long	Rx Internal MAC Errors	Ether ChipSet	Symbol Errors	Duplex Status
Gi0/1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/8	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/12	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/14	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/16	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/17	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/18	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/19	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/21	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/23	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Gi0/24	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Ex0/1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Ex0/2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex
Ex0/3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Full-Duplex

The ETHERNET STATISTICS page (Figure 7-156) is displayed when you click the ETHERNET tab and shows the statistics for a collection of Ethernet-like interfaces attached to the ISS.

IPv6

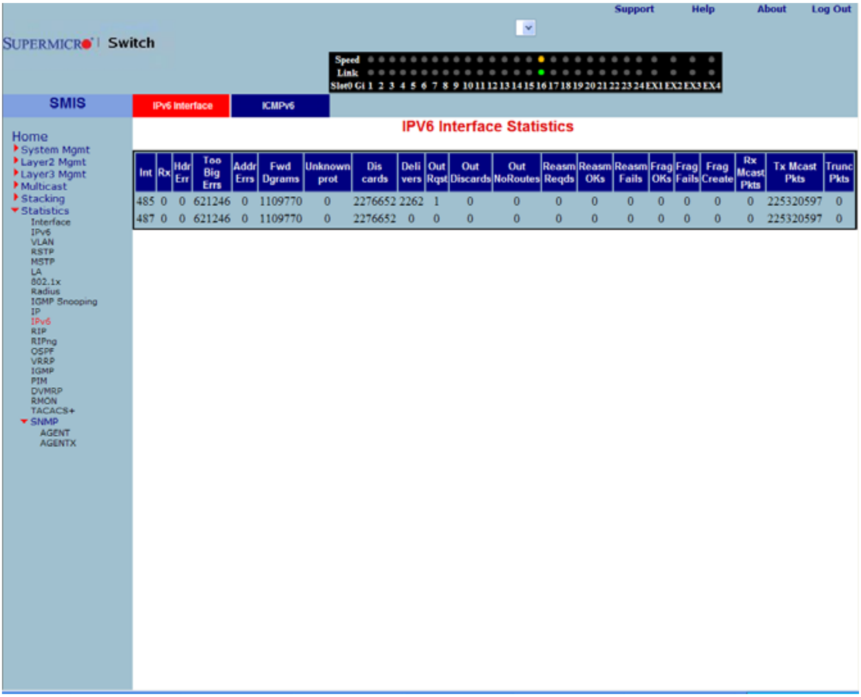
The following control tabs are available under IPv6 Statistics:

- IPV6 Interface
- ICMPv6

The IPV6 INTERFACE STATISTICS tab is the default.

IPV6 Interface

Figure 7-157. IPV6 Interface Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Interface
ICMPv6
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

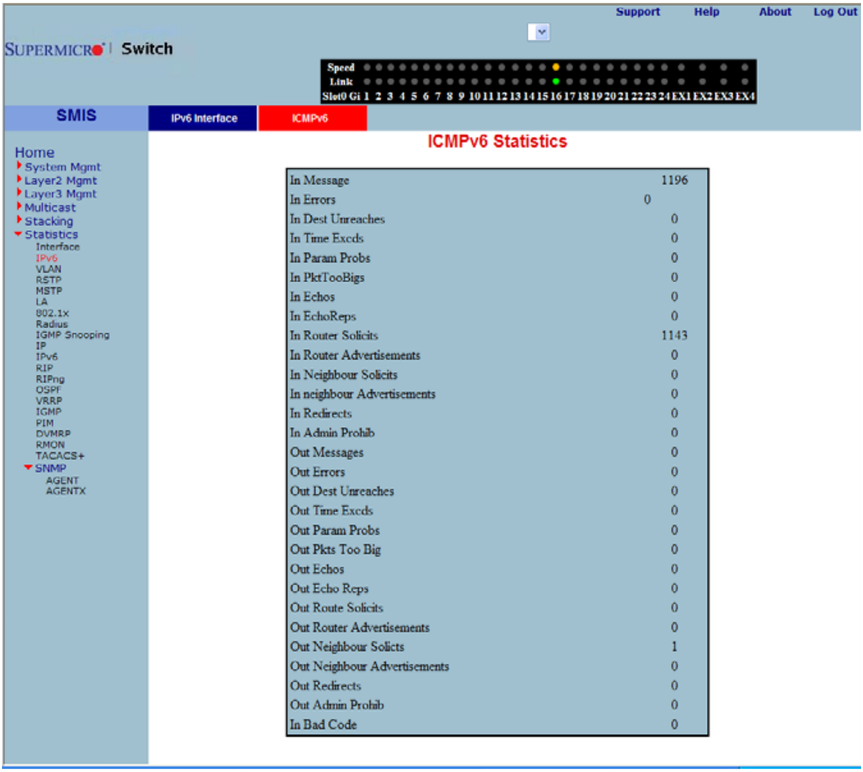
IPV6 Interface Statistics

Int	Rx	Hdr Err	Too Big Errs	Addr Errs	Fwd Dgrams	Unknown prot	Dis cards	Deli vers	Out Rqst	Out Discards	Out NoRoutes	Reasm Reqds	Reasm OKs	Reasm Fails	Frag OKs	Frag Fails	Frag Create	Rx Mcast Pkts	Tx Mcast Pkts	Trunc Pkts
485	0	0	621246	0	1109770	0	2276652	2262	1	0	0	0	0	0	0	0	0	0	225320597	0
487	0	0	621246	0	1109770	0	2276652	0	0	0	0	0	0	0	0	0	0	0	225320597	0

Clicking on the IPV6 INTERFACE tab brings up the IPV6 INTERAFACE STATISTICS page (Figure 7-157), which shows statistics regarding the IPv6 Interface. Both the incoming and the outgoing packet statistics are displayed on this page.

ICMPv6

Figure 7-158. ICMPv6 Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IPv6 Interface
ICMPv6
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

ICMPv6 Statistics

In Message	1196
In Errors	0
In Dest Unreaches	0
In Time Excds	0
In Param Probs	0
In PktTooBigs	0
In Echos	0
In EchoReps	0
In Router Solicits	1143
In Router Advertisements	0
In Neighbour Solicits	0
In neighbour Advertisements	0
In Redirects	0
In Admin Prohib	0
Out Messages	0
Out Errors	0
Out Dest Unreaches	0
Out Time Excds	0
Out Param Probs	0
Out Pkts Too Big	0
Out Echos	0
Out Echo Reps	0
Out Route Solicits	0
Out Router Advertisements	0
Out Neighbour Solicts	1
Out Neighbour Advertisements	0
Out Redirects	0
Out Admin Prohib	0
In Bad Code	0

Clicking on the ICMPv6 tab brings up the ICMPv6 Statistics page (Figure 7-158), which shows statistics regarding the ICMPv6 packets. Both the incoming and the outgoing packet statistics are displayed on this page.

VLAN

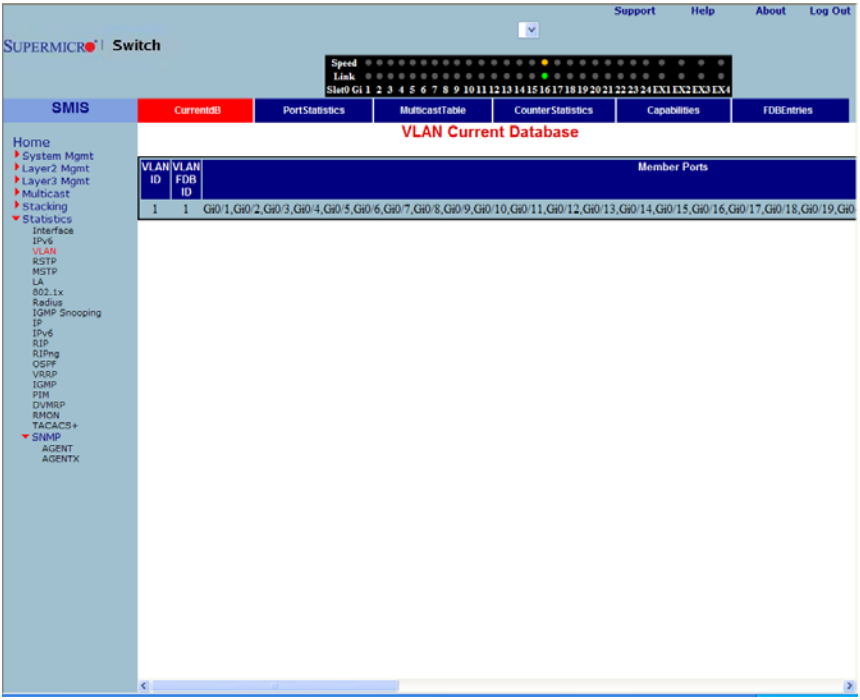
Clicking on the VLAN link displays the following control tabs for VLAN statistics:

- Current dB
- Port Statistics
- Multicast Table
- Counter Statistics
- Capabilities
- FDB Entries

By default, the CURRENT DB tab is displayed.

Current dB

Figure 7-159. VLAN Current Database Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
CurrentdB
PortStatistics
MulticastTable
CounterStatistics
Capabilities
FDBEntries
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

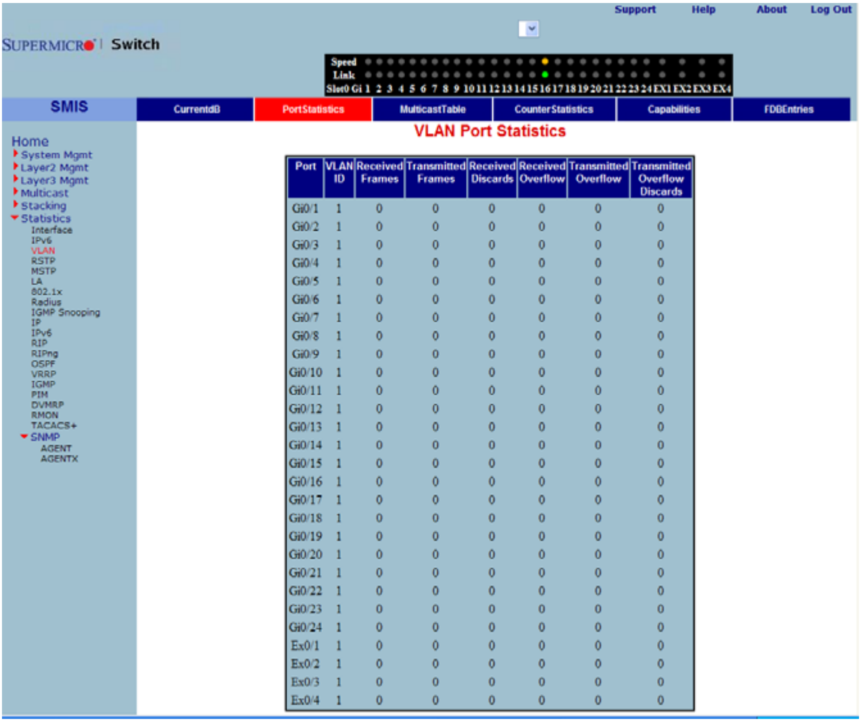
VLAN Current Database

VLAN ID	VLAN FDB ID	Member Ports
1	1	Gi0/1,Gi0/2,Gi0/3,Gi0/4,Gi0/5,Gi0/6,Gi0/7,Gi0/8,Gi0/9,Gi0/10,Gi0/11,Gi0/12,Gi0/13,Gi0/14,Gi0/15,Gi0/16,Gi0/17,Gi0/18,Gi0/19,Gi0

Clicking on the CURRENTDB tab brings up the VLAN CURRENT DATABASE page (Figure 7-159), which shows information for a VLAN that is configured in the device or that is dynamically created as a result of GVRP requests received.

Port Statistics

Figure 7-160. VLAN Port Statistics Page


Support
Help
About
Log Out
SUPERMICR Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
CurrentdB
PortStatistics
MulticastTable
CounterStatistics
Capabilities
FDBEntries
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

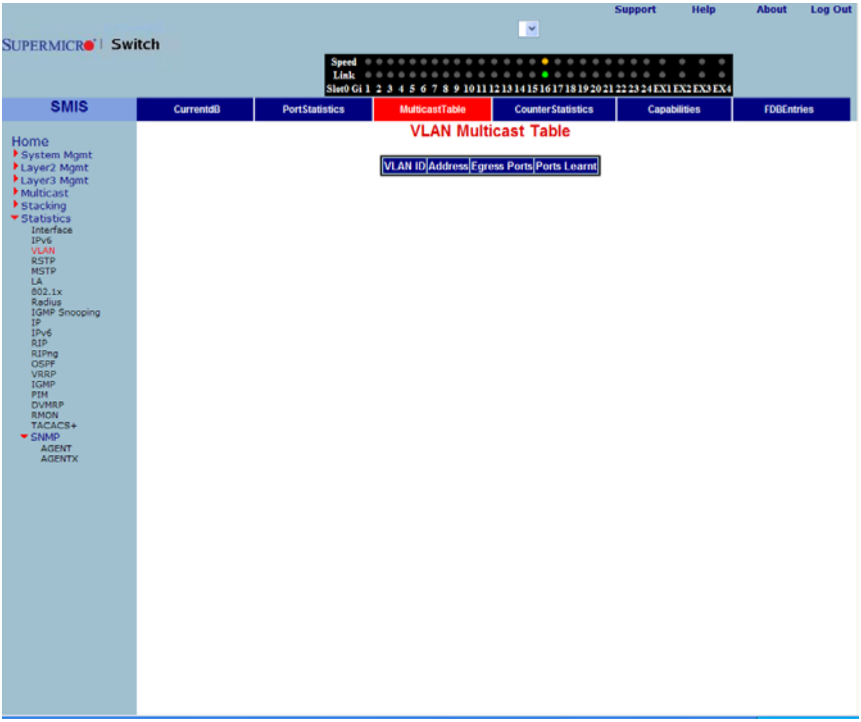
VLAN Port Statistics

Port	VLAN ID	Received Frames	Transmitted Frames	Received Discards	Received Overflow	Transmitted Overflow	Transmitted Overflow Discards
Gi0/1	1	0	0	0	0	0	0
Gi0/2	1	0	0	0	0	0	0
Gi0/3	1	0	0	0	0	0	0
Gi0/4	1	0	0	0	0	0	0
Gi0/5	1	0	0	0	0	0	0
Gi0/6	1	0	0	0	0	0	0
Gi0/7	1	0	0	0	0	0	0
Gi0/8	1	0	0	0	0	0	0
Gi0/9	1	0	0	0	0	0	0
Gi0/10	1	0	0	0	0	0	0
Gi0/11	1	0	0	0	0	0	0
Gi0/12	1	0	0	0	0	0	0
Gi0/13	1	0	0	0	0	0	0
Gi0/14	1	0	0	0	0	0	0
Gi0/15	1	0	0	0	0	0	0
Gi0/16	1	0	0	0	0	0	0
Gi0/17	1	0	0	0	0	0	0
Gi0/18	1	0	0	0	0	0	0
Gi0/19	1	0	0	0	0	0	0
Gi0/20	1	0	0	0	0	0	0
Gi0/21	1	0	0	0	0	0	0
Gi0/22	1	0	0	0	0	0	0
Gi0/23	1	0	0	0	0	0	0
Gi0/24	1	0	0	0	0	0	0
Ex0/1	1	0	0	0	0	0	0
Ex0/2	1	0	0	0	0	0	0
Ex0/3	1	0	0	0	0	0	0
Ex0/4	1	0	0	0	0	0	0

Clicking on the PORT STATISTICS tab brings up the VLAN PORT STATISTICS page (Figure 7-160), which shows the traffic statistics for all the available VLANs in the device.

Multicast Table

Figure 7-161. VLAN Multicast Table Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
CurrentdB
PortStatistics
MulticastTable
CounterStatistics
Capabilities
FDBEntries
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

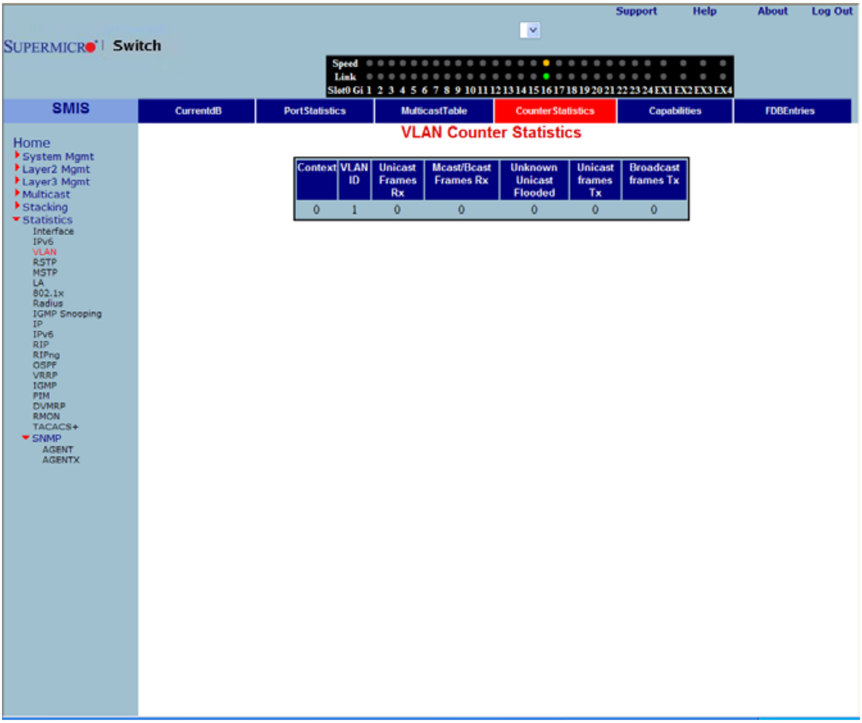
VLAN Multicast Table

VLAN ID	Address	Egress Ports	Ports Learnt

Clicking on the MULTICAST TABLE tab brings up the VLAN MULTICAST TABLE page (Figure 7-161), which displays VLAN Dynamic group Registrations statistics.

Counter Statistics

Figure 7-162. VLAN Counter Statistics Page



Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
CurrentdB
PortStatistics
MulticastTable
CounterStatistics
Capabilities
FDBEntries
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

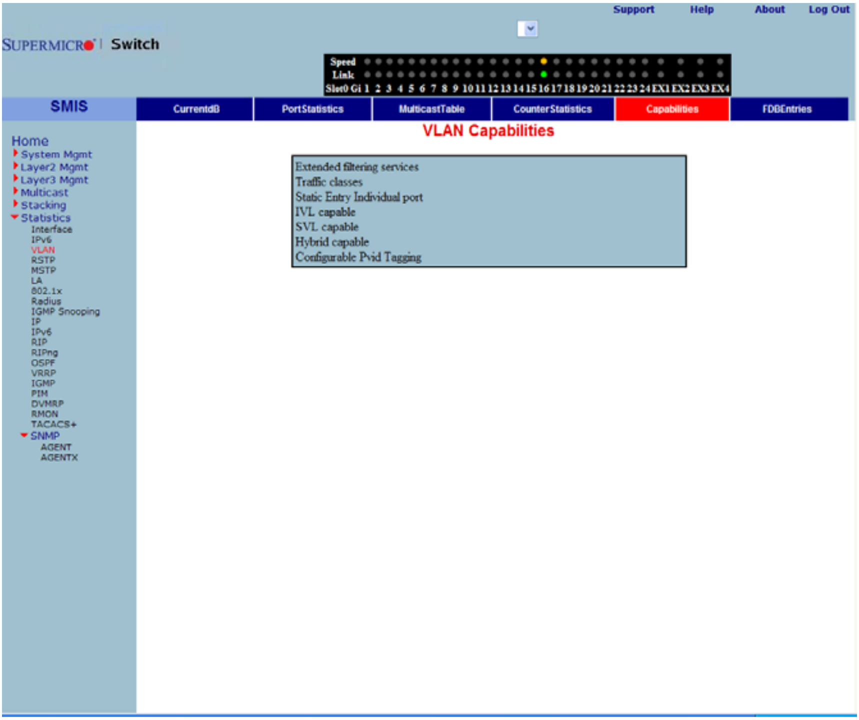
VLAN Counter Statistics

Context	VLAN ID	Unicast Frames Rx	Mcast/Bcast Frames Rx	Unknown Unicast Flooded	Unicast frames Tx	Broadcast frames Tx
0	1	0	0	0	0	0

Clicking on the Counter Statistics tab brings up the VLAN Counter Statistics page (Figure 7-162), which displays VLAN Counter statistics.

Capabilities

Figure 7-163. VLAN Capabilities Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
CurrentdB
PortStatistics
MulticastTable
CounterStatistics
Capabilities
FDBEntries
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

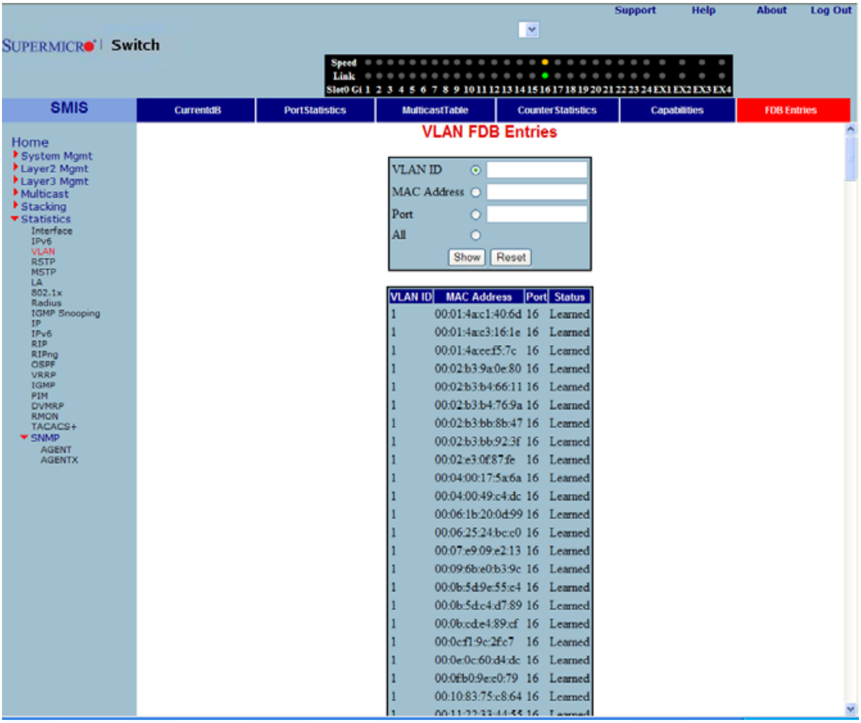
VLAN Capabilities

Extended filtering services
Traffic classes
Static Entry Individual port
IVL capable
SVL capable
Hybrid capable
Configurable Pvid Tagging

Clicking on the CAPABILITIES tab brings up the VLAN CAPABILITIES page (Figure 7-163), which displays VLAN capabilities.

FDB Entries

Figure 7-164. VLAN FDB Entries Page


Support
Help
About
Log Out
SUPERMICR● Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
CurrentdB
PortStatistics
MulticastTable
CounterStatistics
Capabilities
FDB Entries
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
Show
Reset

VLAN FDB Entries

VLAN ID ●
MAC Address ○
Port ○
All ○

VLAN ID	MAC Address	Port	Status
1	00:01:4a:c1:40:6d	16	Learned
1	00:01:4a:e3:16:1e	16	Learned
1	00:01:4a:ee:f5:7c	16	Learned
1	00:02:b3:9a:0e:80	16	Learned
1	00:02:b3:b4:66:11	16	Learned
1	00:02:b3:b4:76:9a	16	Learned
1	00:02:b3:bb:8b:47	16	Learned
1	00:02:b3:bb:92:3f	16	Learned
1	00:02:e3:0f:87:fe	16	Learned
1	00:04:00:17:5a:6a	16	Learned
1	00:04:00:49:c4:dc	16	Learned
1	00:06:1b:20:0d:99	16	Learned
1	00:06:25:24:bc:c0	16	Learned
1	00:07:e9:09:e2:13	16	Learned
1	00:09:6b:e0:b3:9c	16	Learned
1	00:0b:5d:9e:55:c4	16	Learned
1	00:0b:5d:c4:d7:89	16	Learned
1	00:0b:cd:e4:89:cf	16	Learned
1	00:0c:f1:9c:2f:c7	16	Learned
1	00:0e:0c:60:d4:dc	16	Learned
1	00:0f:b0:9e:c0:79	16	Learned
1	00:10:83:75:c8:64	16	Learned
1	00:11:22:33:44:55	16	Learned

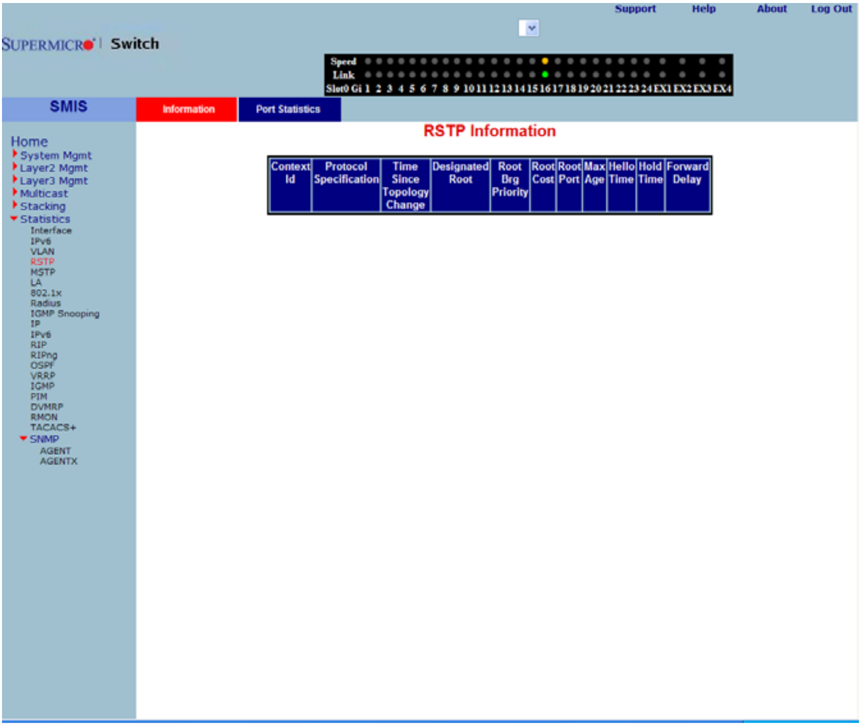
Clicking on the FDB ENTRIES tab brings up the VLAN FDB ENTRIES page (Figure 7-164), which displays information about a specific unicast MAC address for which the device has some forwarding and/or filtering information.

RSTP

Clicking on the RSTP link displays the following control tabs for RSTP statistics: Information and Port Statistics. The INFORMATION tab is the default shown.

Information

Figure 7-165. RSTP Information Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Information
Port Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

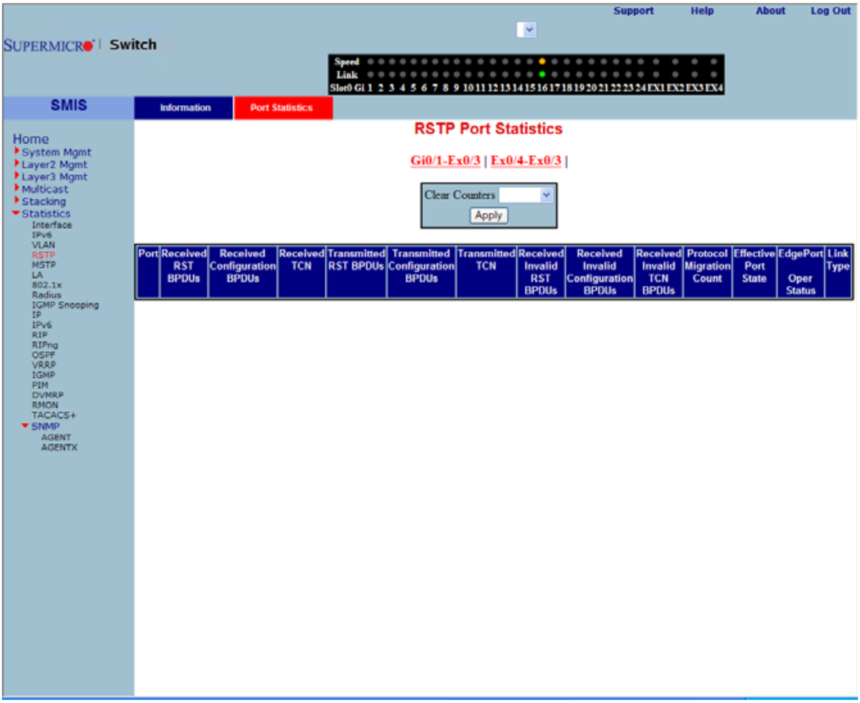
RSTP Information

Context Id	Protocol Specification	Time Since Topology Change	Designated Root	Root Brg Priority	Root Cost	Root Port	Max Age	Hello Time	Hold Time	Forward Delay

Clicking on the INFORMATION tab brings up the RSTP INFORMATION page (Figure 7-165), which displays information on the bridges that supports the Spanning Tree protocol.

Port Statistics

Figure 7-166. RSTP Port Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Information
Port Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |
Clear Counters
Apply

RSTP Port Statistics

Port	Received RST BPDUs	Received Configuration BPDUs	Received TCN	Transmitted RST BPDUs	Transmitted Configuration BPDUs	Transmitted TCN	Received Invalid RST BPDUs	Received Invalid Configuration BPDUs	Received Invalid TCN BPDUs	Protocol Migration Count	Effective Port State	EdgePort Oper Status	Link Type

Clicking on the PORT STATISTICS tab brings up the RSTP PORT STATISTICS page (Figure 7-166), which displays various RSTP statistics involved with each of the port available in the system like the role, state, transition state machine, various packet statistics and so on.

MSTP

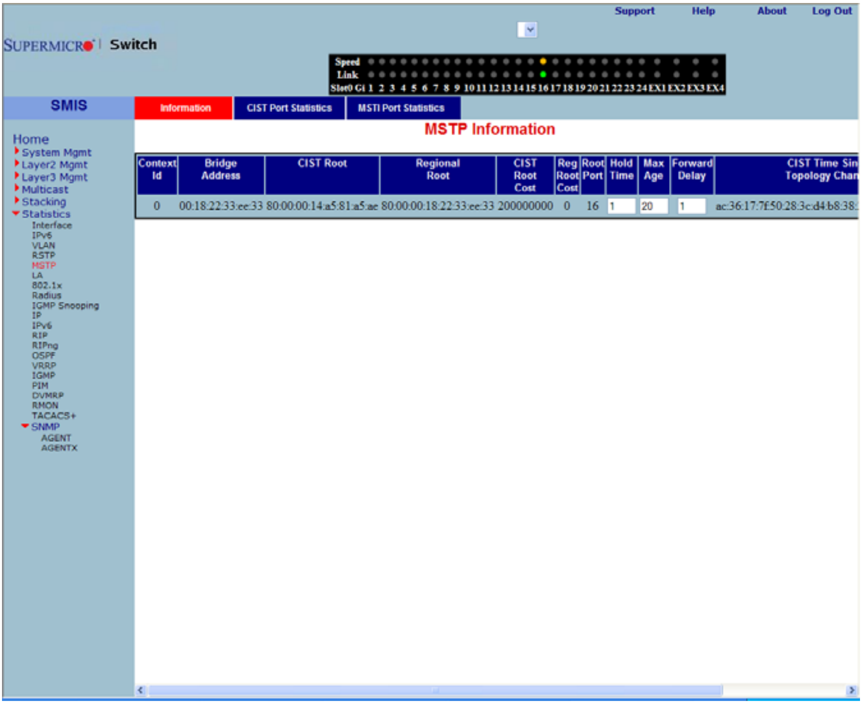
Clicking on the MSTP link displays the following control tabs for MSTP statistics:

- Information
- CIST Port Statistics
- MSTI Port Statistics

By default, the INFORMATION tab is shown.

Information

Figure 7-167. MSTP Information Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Information
CIST Port Statistics
MSTI Port Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

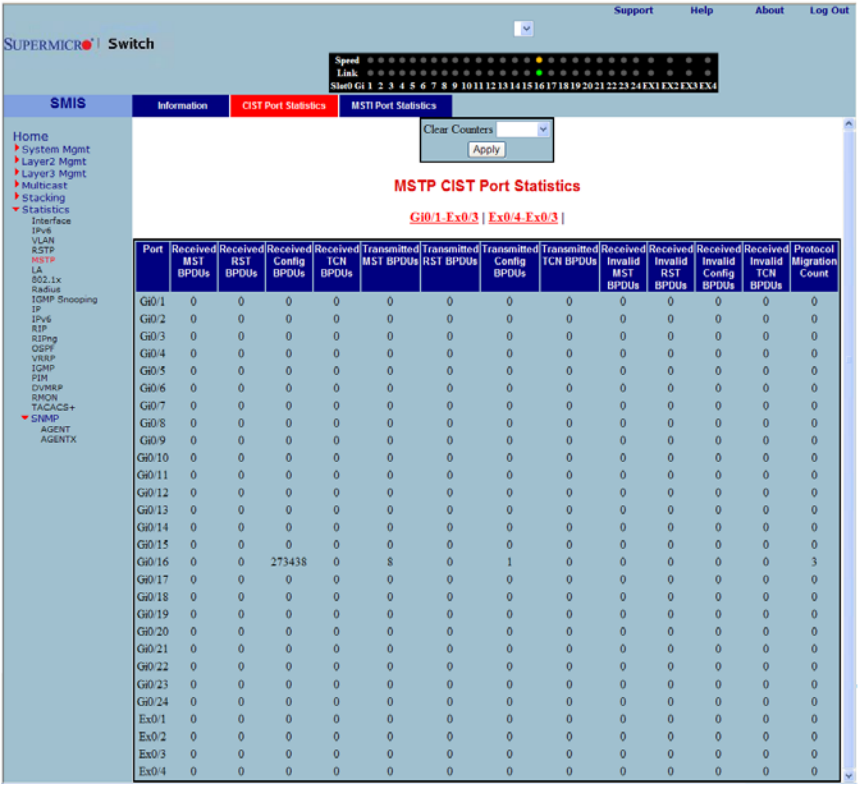
MSTP Information

Context Id	Bridge Address	CIST Root	Regional Root	CIST Root Cost	Reg Root Cost	Root Port	Hold Time	Max Age	Forward Delay	CIST Time Sin Topology Chan
0	00:18:22:33:ee:33	80:00:00:14:a5:81:a5:ae	80:00:00:18:22:33:ee:33	200000000	0	16	1	20	1	ac:36:17:7f:50:28:3c:d4:b8:38:

Clicking on the INFORMATION tab brings up the MSTP INFORMATION page (Figure 7-167), which displays information corresponding to the Multiple Spanning Tree protocol.

CIST Port Statistics

Figure 7-168. MSTP CIST Port Statistics Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Information
CIST Port Statistics
MSTI Port Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
Clear Counters
Apply

MSTP CIST Port Statistics

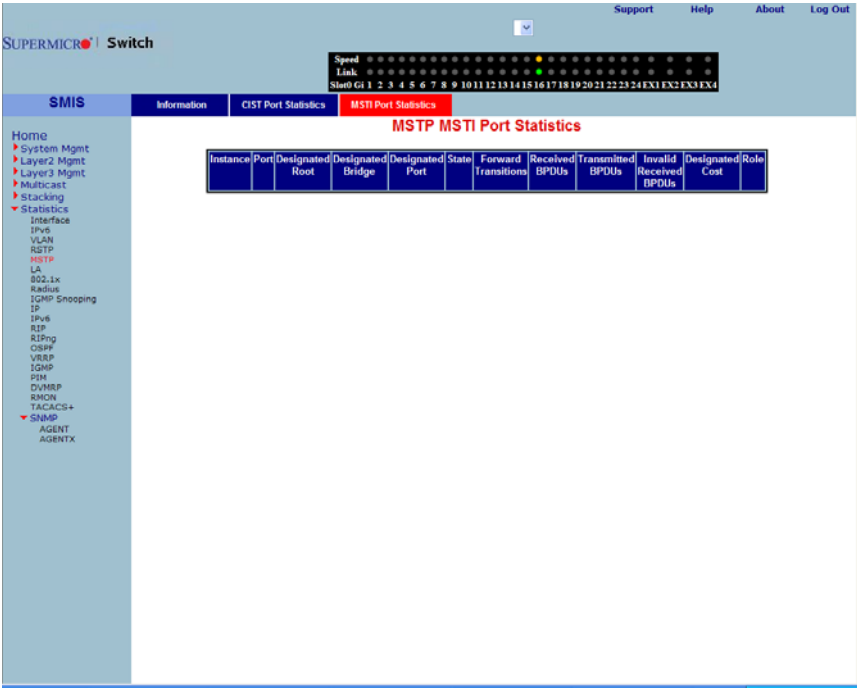
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Port	Received MST BPDUs	Received RST BPDUs	Received Config BPDUs	Received TCN BPDUs	Transmitted MST BPDUs	Transmitted RST BPDUs	Transmitted Config BPDUs	Transmitted TCN BPDUs	Received Invalid MST BPDUs	Received Invalid RST BPDUs	Received Invalid Config BPDUs	Received Invalid TCN BPDUs	Protocol Migration Count
Gi0/1	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/2	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/3	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/4	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/5	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/6	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/7	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/8	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/9	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/10	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/11	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/12	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/13	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/14	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/15	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/16	0	0	273438	0	8	0	1	0	0	0	0	0	3
Gi0/17	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/18	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/19	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/20	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/21	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/22	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/23	0	0	0	0	0	0	0	0	0	0	0	0	0
Gi0/24	0	0	0	0	0	0	0	0	0	0	0	0	0
Ex0/1	0	0	0	0	0	0	0	0	0	0	0	0	0
Ex0/2	0	0	0	0	0	0	0	0	0	0	0	0	0
Ex0/3	0	0	0	0	0	0	0	0	0	0	0	0	0
Ex0/4	0	0	0	0	0	0	0	0	0	0	0	0	0

Clicking on the CIST Port Statistics tab brings up the MSTP CIST Port Statistics page (Figure 7-168), which displays a list of information maintained by every port for the Common Spanning Tree.

MSTI Port Statistics

Figure 7-169. MSTP MSTI Port Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Information
CIST Port Statistics
MSTI Port Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

MSTP MSTI Port Statistics

Instance	Port	Designated Root	Designated Bridge	Designated Port	State	Forward Transitions	Received BPDUs	Transmitted BPDUs	Invalid Received BPDUs	Designated Cost	Role

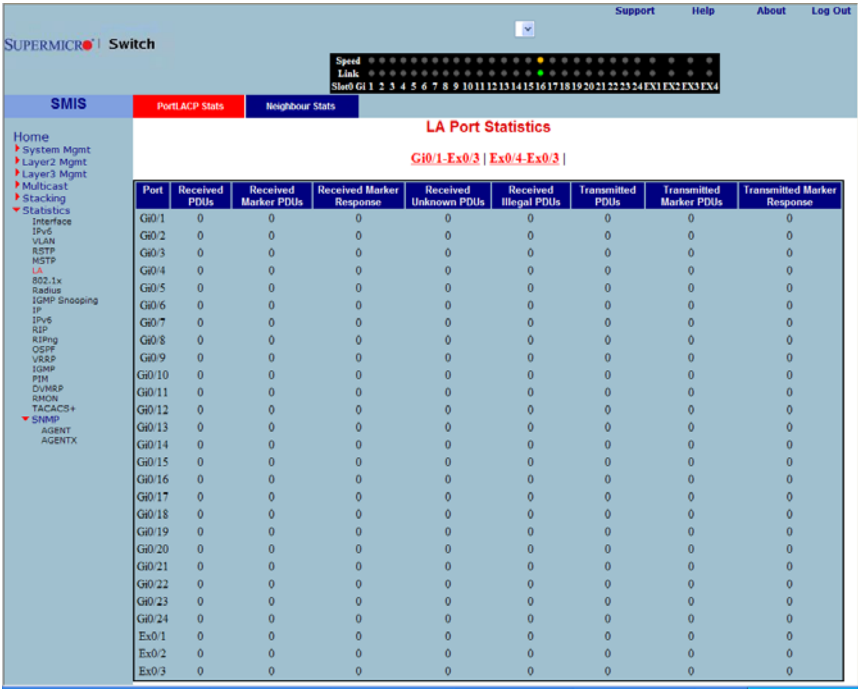
Clicking on the MSTI PORT STATISTICS tab brings up the MSTP MSTI PORT STATISTICS page (Figure 7-169), which displays a list of information maintained by every port for each and every spanning tree instance.

LA

Clicking on the LA link displays the following control tabs for LA statistics: PortLACP Stats and Neighbor Stats. The default shown is for the PortLACP Stats tab.

PortLACP Stats

Figure 7-170. LA Port Statistics Page

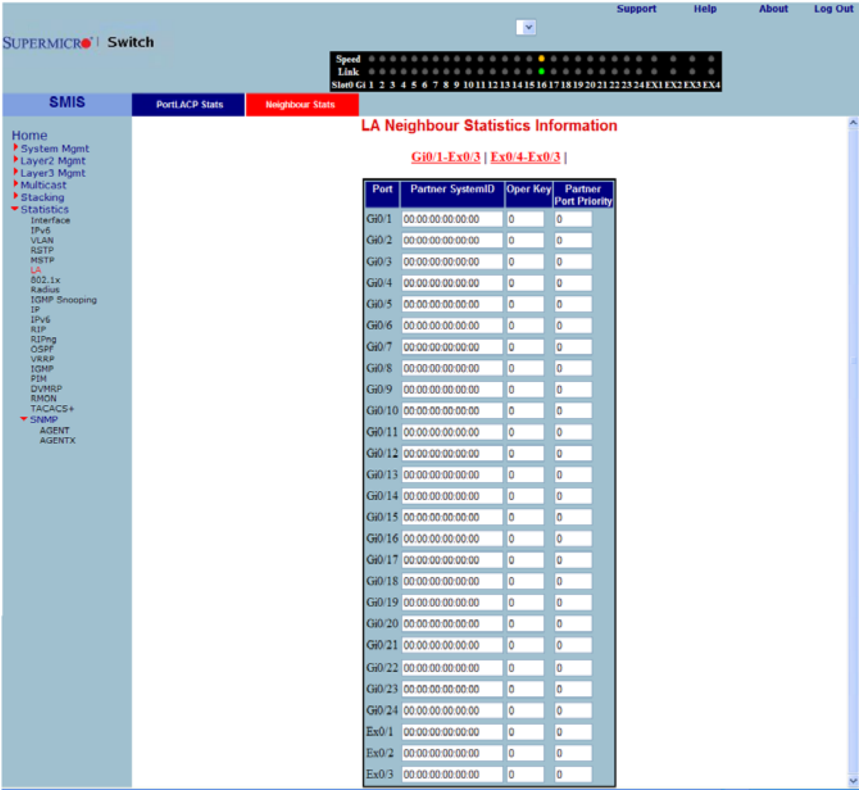

Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
PortLACP Stats
Neighbour Stats
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
LA Port Statistics
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Port	Received PDUs	Received Marker PDUs	Received Marker Response	Received Unknown PDUs	Received Illegal PDUs	Transmitted PDUs	Transmitted Marker PDUs	Transmitted Marker Response
Gi0/1	0	0	0	0	0	0	0	0
Gi0/2	0	0	0	0	0	0	0	0
Gi0/3	0	0	0	0	0	0	0	0
Gi0/4	0	0	0	0	0	0	0	0
Gi0/5	0	0	0	0	0	0	0	0
Gi0/6	0	0	0	0	0	0	0	0
Gi0/7	0	0	0	0	0	0	0	0
Gi0/8	0	0	0	0	0	0	0	0
Gi0/9	0	0	0	0	0	0	0	0
Gi0/10	0	0	0	0	0	0	0	0
Gi0/11	0	0	0	0	0	0	0	0
Gi0/12	0	0	0	0	0	0	0	0
Gi0/13	0	0	0	0	0	0	0	0
Gi0/14	0	0	0	0	0	0	0	0
Gi0/15	0	0	0	0	0	0	0	0
Gi0/16	0	0	0	0	0	0	0	0
Gi0/17	0	0	0	0	0	0	0	0
Gi0/18	0	0	0	0	0	0	0	0
Gi0/19	0	0	0	0	0	0	0	0
Gi0/20	0	0	0	0	0	0	0	0
Gi0/21	0	0	0	0	0	0	0	0
Gi0/22	0	0	0	0	0	0	0	0
Gi0/23	0	0	0	0	0	0	0	0
Gi0/24	0	0	0	0	0	0	0	0
Ex0/1	0	0	0	0	0	0	0	0
Ex0/2	0	0	0	0	0	0	0	0
Ex0/3	0	0	0	0	0	0	0	0

Clicking on the PortLACP Stats tab brings up the LA Port Statistics page (Figure 7-170), displays the Link Aggregation Protocol statistics for each port on the device.

Neighbor Stats

Figure 7-171. LA Neighbor Statistics Information Page


SUPERMICRO Switch
Support
Help
About
Log Out
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
PortLACP Stats
Neighbour Stats
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

LA Neighbour Statistics Information

Port	Partner SystemID	Oper Key	Partner Port Priority
Gi0/1	00:00:00:00:00:00	0	0
Gi0/2	00:00:00:00:00:00	0	0
Gi0/3	00:00:00:00:00:00	0	0
Gi0/4	00:00:00:00:00:00	0	0
Gi0/5	00:00:00:00:00:00	0	0
Gi0/6	00:00:00:00:00:00	0	0
Gi0/7	00:00:00:00:00:00	0	0
Gi0/8	00:00:00:00:00:00	0	0
Gi0/9	00:00:00:00:00:00	0	0
Gi0/10	00:00:00:00:00:00	0	0
Gi0/11	00:00:00:00:00:00	0	0
Gi0/12	00:00:00:00:00:00	0	0
Gi0/13	00:00:00:00:00:00	0	0
Gi0/14	00:00:00:00:00:00	0	0
Gi0/15	00:00:00:00:00:00	0	0
Gi0/16	00:00:00:00:00:00	0	0
Gi0/17	00:00:00:00:00:00	0	0
Gi0/18	00:00:00:00:00:00	0	0
Gi0/19	00:00:00:00:00:00	0	0
Gi0/20	00:00:00:00:00:00	0	0
Gi0/21	00:00:00:00:00:00	0	0
Gi0/22	00:00:00:00:00:00	0	0
Gi0/23	00:00:00:00:00:00	0	0
Gi0/24	00:00:00:00:00:00	0	0
Ex0/1	00:00:00:00:00:00	0	0
Ex0/2	00:00:00:00:00:00	0	0
Ex0/3	00:00:00:00:00:00	0	0

Clicking on the NEIGHBOR STATS tab brings up the LA NEIGHBOR STATISTICS INFORMATION page (Figure 7-171), which displays the Neighbor statistics for each port on the device.

802.1x

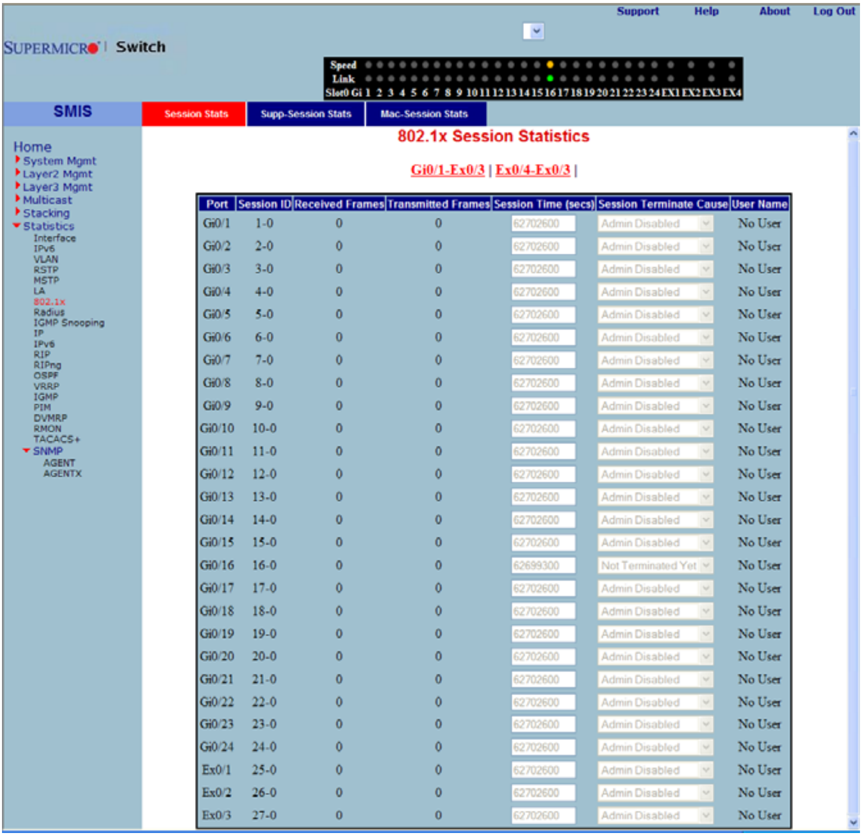
Clicking on the 802.1X link displays the following control tabs for 802.1x statistics:

- Session Stats
- Supp-Session Stats
- Mac-Session Stats

By default, the SESSION STATS tab is shown.

Session Stats

Figure 7-172. 802.1x Session Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Session Stats
Supp-Session Stats
Mac-Session Stats
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

802.1x Session Statistics

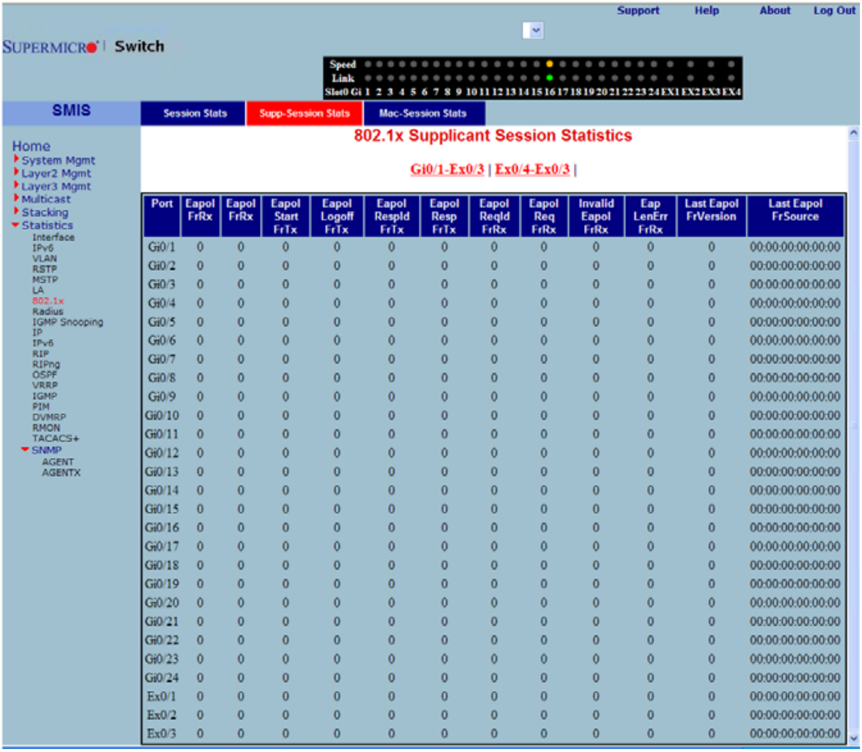
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Port	Session ID	Received Frames	Transmitted Frames	Session Time (secs)	Session Terminate Cause	User Name
Gi0/1	1-0	0	0	62702600	Admin Disabled	No User
Gi0/2	2-0	0	0	62702600	Admin Disabled	No User
Gi0/3	3-0	0	0	62702600	Admin Disabled	No User
Gi0/4	4-0	0	0	62702600	Admin Disabled	No User
Gi0/5	5-0	0	0	62702600	Admin Disabled	No User
Gi0/6	6-0	0	0	62702600	Admin Disabled	No User
Gi0/7	7-0	0	0	62702600	Admin Disabled	No User
Gi0/8	8-0	0	0	62702600	Admin Disabled	No User
Gi0/9	9-0	0	0	62702600	Admin Disabled	No User
Gi0/10	10-0	0	0	62702600	Admin Disabled	No User
Gi0/11	11-0	0	0	62702600	Admin Disabled	No User
Gi0/12	12-0	0	0	62702600	Admin Disabled	No User
Gi0/13	13-0	0	0	62702600	Admin Disabled	No User
Gi0/14	14-0	0	0	62702600	Admin Disabled	No User
Gi0/15	15-0	0	0	62702600	Admin Disabled	No User
Gi0/16	16-0	0	0	62699300	Not Terminated Yet	No User
Gi0/17	17-0	0	0	62702600	Admin Disabled	No User
Gi0/18	18-0	0	0	62702600	Admin Disabled	No User
Gi0/19	19-0	0	0	62702600	Admin Disabled	No User
Gi0/20	20-0	0	0	62702600	Admin Disabled	No User
Gi0/21	21-0	0	0	62702600	Admin Disabled	No User
Gi0/22	22-0	0	0	62702600	Admin Disabled	No User
Gi0/23	23-0	0	0	62702600	Admin Disabled	No User
Gi0/24	24-0	0	0	62702600	Admin Disabled	No User
Ex0/1	25-0	0	0	62702600	Admin Disabled	No User
Ex0/2	26-0	0	0	62702600	Admin Disabled	No User
Ex0/3	27-0	0	0	62702600	Admin Disabled	No User

Clicking on the SESSION STATS tab brings up the 802.1X SESSION STATISTICS page (Figure 7-172), which displays the session statistics for an authenticator PAE (Port Access Entity). It shows the current values being collected for each session that is still in progress or the final values for the last valid session on each port where there is no current active session.

Supp-Session Stats

Figure 7-173. 802.1x Supplicant Session Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Session Stats
Supp-Session Stats
Mac-Session Stats
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

802.1x Supplicant Session Statistics

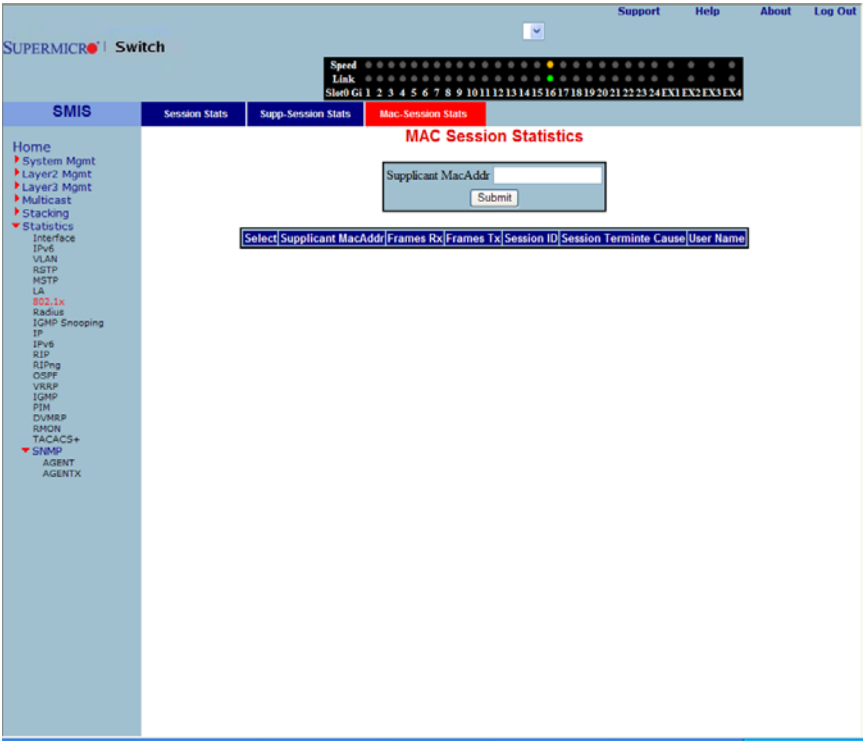
Gi0/1-Ex0/3 | Ex0/4-Ex0/3 |

Port	Eapol FrRx	Eapol FrRx	Eapol Start FrTx	Eapol Logoff FrTx	Eapol RespId FrTx	Eapol Resp FrTx	Eapol ReqId FrRx	Eapol Req FrRx	Invalid Eapol FrRx	Eap LenErr FrRx	Last Eapol FrVersion	Last Eapol FrSource
Gi0/1	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/2	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/3	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/4	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/5	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/6	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/7	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/8	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/9	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/10	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/11	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/12	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/13	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/14	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/15	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/16	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/17	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/18	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/19	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/20	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/21	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/22	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/23	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Gi0/24	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Ex0/1	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Ex0/2	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00
Ex0/3	0	0	0	0	0	0	0	0	0	0	0	00:00:00:00:00:00

Clicking on the SUPP-SESSION STATS tab brings up the 802.1X SUPPLICANT SESSION STATISTICS page (Figure 7-173), which displays Supplicant Session statistics.

Mac-Session Stats

Figure 7-174. MAC Session Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Session Stats
Supp-Session Stats
Mac-Session Stats
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
Submit

MAC Session Statistics

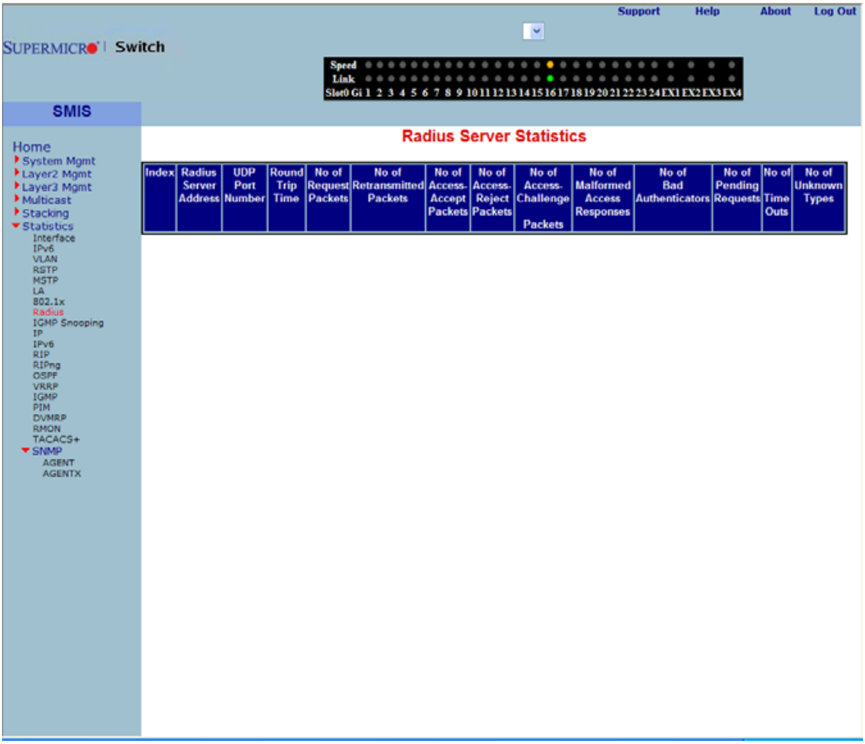
Supplicant MacAddr

Select	Supplicant MacAddr	Frames Rx	Frames Tx	Session ID	Session Terminte Cause	User Name

Clicking on the MAC-Session Stats tab brings up the MAC Session Statistics page (Figure 7-174), which displays MAC Session statistics.

Radius

Figure 7-175. Radius Server Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

Radius Server Statistics

Index	Radius Server Address	UDP Port Number	Round Trip Time	No of Request Packets	No of Retransmitted Packets	No of Access-Accept Packets	No of Access-Reject Packets	No of Access-Challenge Packets	No of Malformed Access Responses	No of Bad Authenticators	No of Pending Requests	No of Time Outs	No of Unknown Types

Clicking on the RADIUS link brings up the RADIUS SERVER STATISTICS page (Figure 7-175), which displays RADIUS Server statistics.

IGMP Snooping

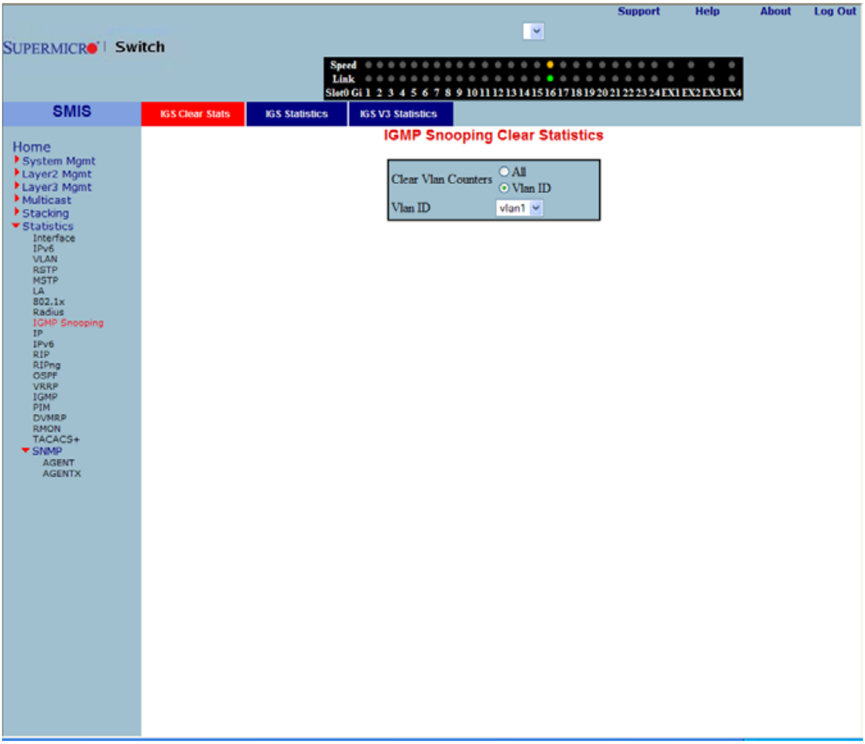
Clicking on the IGMP SNOOPING link displays the following control tabs for IGMP Snooping statistics:

- IGS Clear Stats
- IGS Statistics
- IGS V3 Statistics

By default, the IGS CLEAR STATS tab is shown.

IGS Clear Stats

Figure 7-176. IGMP Snooping Clear Statistics Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IGS Clear Stats
IGS Statistics
IGS V3 Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

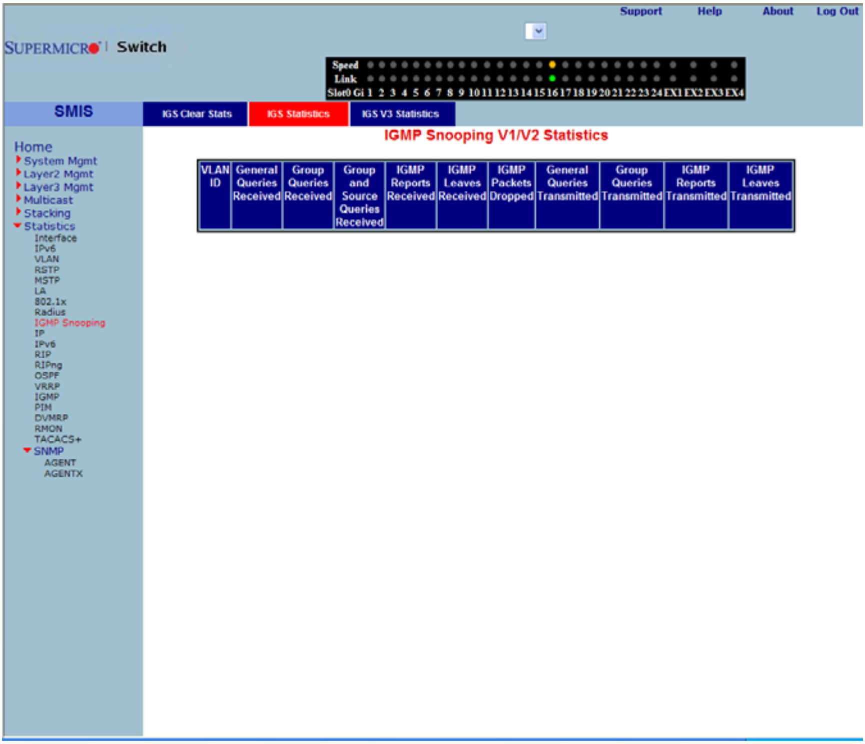
IGMP Snooping Clear Statistics

Clear Vlan Counters	○ All ● Vlan ID
Vlan ID	vlan1

Clicking on the IGS Clear Stats tab brings up the IGMP Snooping Clear Statistics page (Figure 7-176), which displays IGMP snooping clear statistics.

IGS Statistics

Figure 7-177. IGMP Snooping V1/V2 Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IGS Clear Stats
IGS Statistics
IGS V3 Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

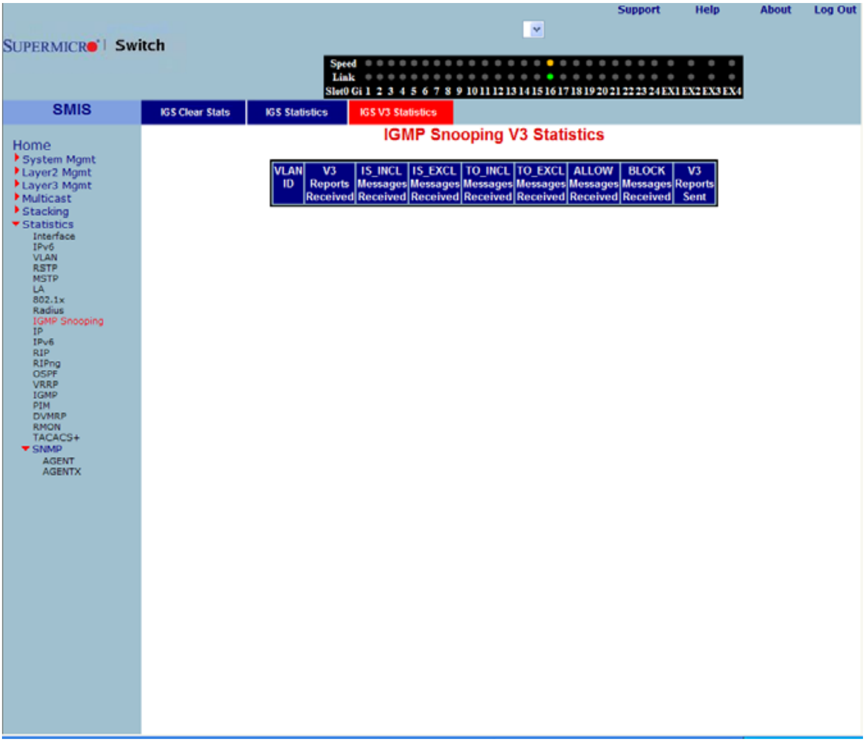
IGMP Snooping V1/V2 Statistics

VLAN ID	General Queries Received	Group Queries Received	Group and Source Queries Received	IGMP Reports Received	IGMP Leaves Received	IGMP Packets Dropped	General Queries Transmitted	Group Queries Transmitted	IGMP Reports Transmitted	IGMP Leaves Transmitted

Clicking on the IGS Statistics tab brings up the IGMP Snooping V1/V2 Statistics page (Figure 7-177), which displays IGMP snooping statistics pertaining to IGMP snooping v1 and v2.

IGS V3 Statistics

Figure 7-178. IGMP Snooping V3 Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
IGS Clear Stats
IGS Statistics
IGS V3 Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

IGMP Snooping V3 Statistics

VLAN ID	V3 Reports Received	IS_INCL Messages Received	IS_EXCL Messages Received	TO_INCL Messages Received	TO_EXCL Messages Received	ALLOW Messages Received	BLOCK Messages Received	V3 Reports Sent

Clicking on the IGS V3 STATISTICS tab brings up the IGMP SNOOPING V3 STATISTICS page (Figure 7-178), which displays IGMP snooping statistics pertaining to IGMP snooping v3.

IP

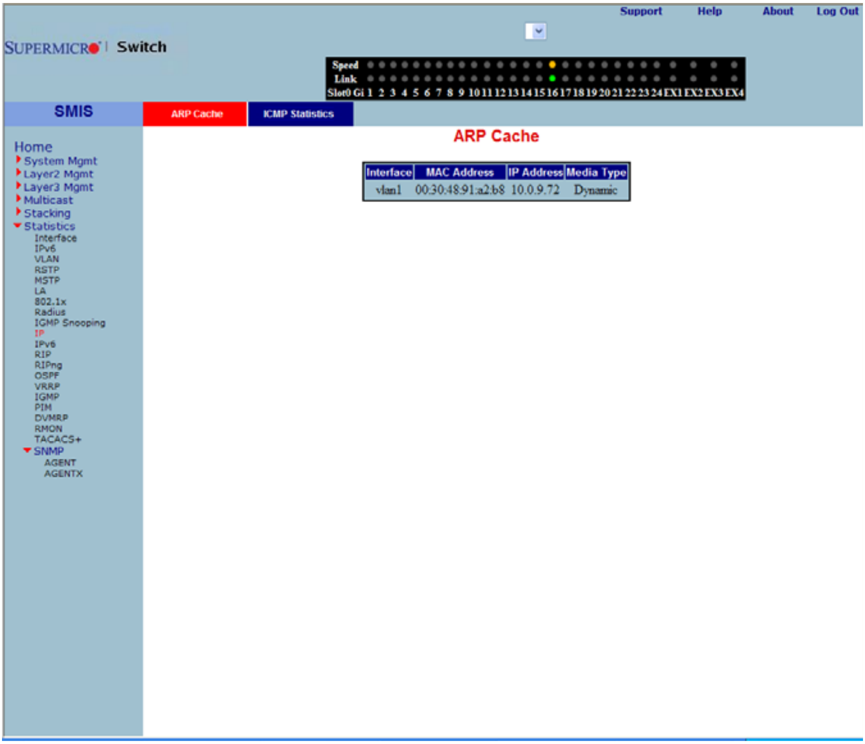
The following control tabs are available under IP Statistics:

- ARP Cache
- ICMP Statistics

The ARP CACHE tab is the default.

ARP Cache

Figure 7-179. ARP Cache Page


Support
Help
About
Log Out
SUPERMICR Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
ARP Cache
ICMP Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

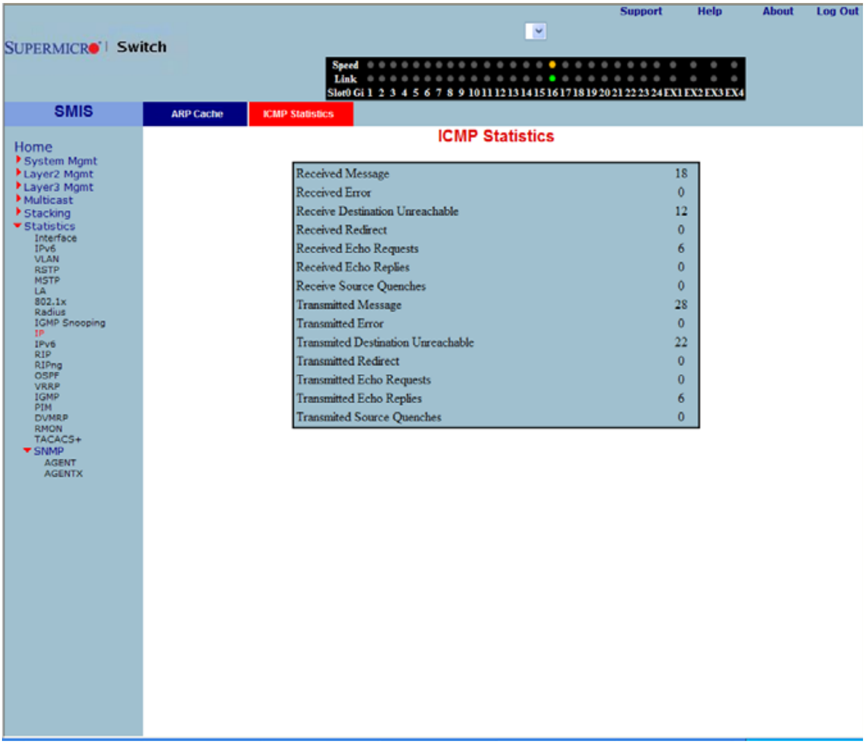
ARP Cache

Interface	MAC Address	IP Address	Media Type
vlan1	00:30:48:91:a2:b8	10.0.9.72	Dynamic

Clicking on the ARP CACHE tab brings up the ARP CACHE page (Figure 7-179). This page lists the ARP (Address Resolution Protocol) cache entries of the ISS.

ICMP Statistics

Figure 7-180. ICMP Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
ARP Cache
ICMP Statistics
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

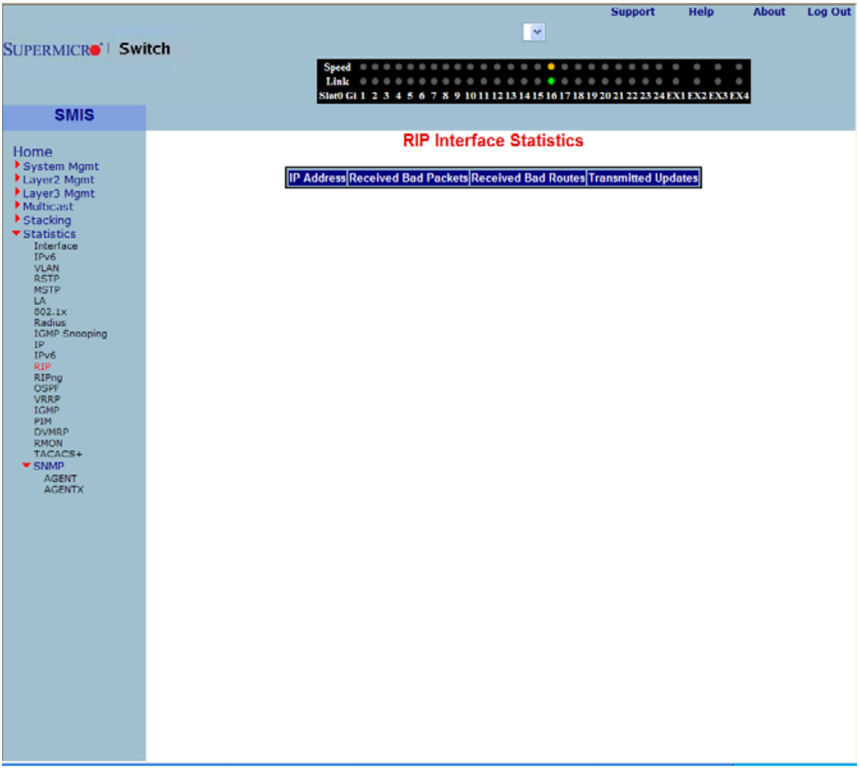
ICMP Statistics

Received Message	18
Received Error	0
Receive Destination Unreachable	12
Received Redirect	0
Received Echo Requests	6
Received Echo Replies	0
Receive Source Quenches	0
Transmitted Message	28
Transmitted Error	0
Transmited Destination Unreachable	22
Transmitted Redirect	0
Transmitted Echo Requests	0
Transmitted Echo Replies	6
Transmited Source Quenches	0

Clicking on the ICMP STATISTICS tab brings up the ICMP STATISTICS page (Figure 7-180). This page shows the statistics regarding the ICMP (Internet Control Message Protocol) packets. Both the incoming and the outgoing packet statistics are displayed.

RIP

Figure 7-181. RIP Interface Statistics Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

RIP Interface Statistics

IP Address	Received Bad Packets	Received Bad Routes	Transmitted Updates

Clicking on the RIP link brings up the RIP INTERFACE STATISTICS page (Figure 7-181). This page shows the Routing Information Protocol statistics for each interface in the switch.

RIPng

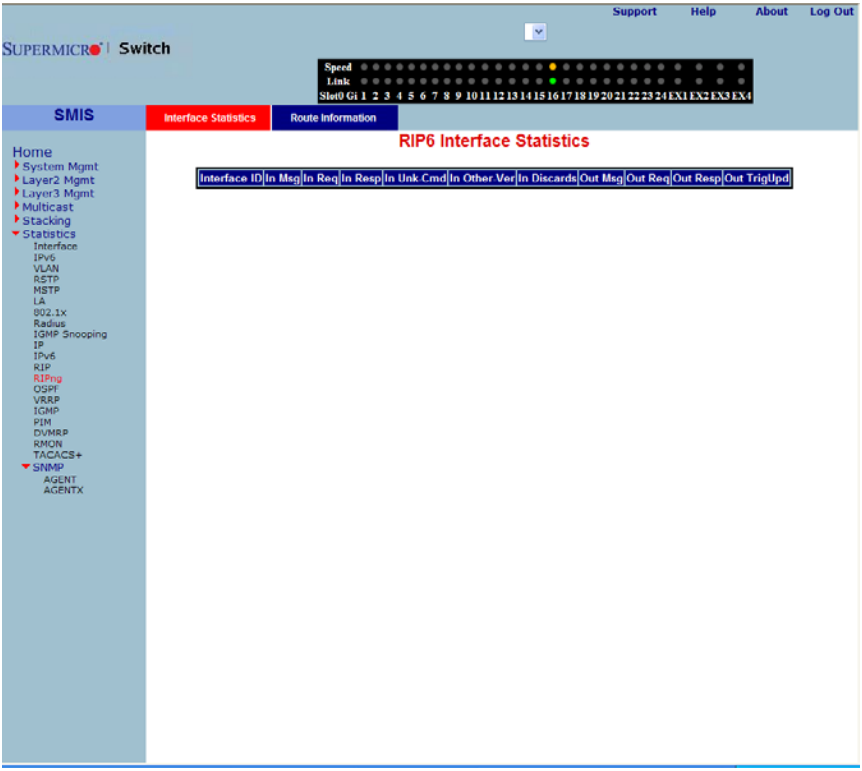
The following control tabs are available under RIPv6 Statistics:

- Interface Statistics
- Route Information

The RIP6 INTERFACE STATISTICS tab is the default.

Interface Statistics

Figure 7-182. RIP6 Interface Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Interface Statistics
Route Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

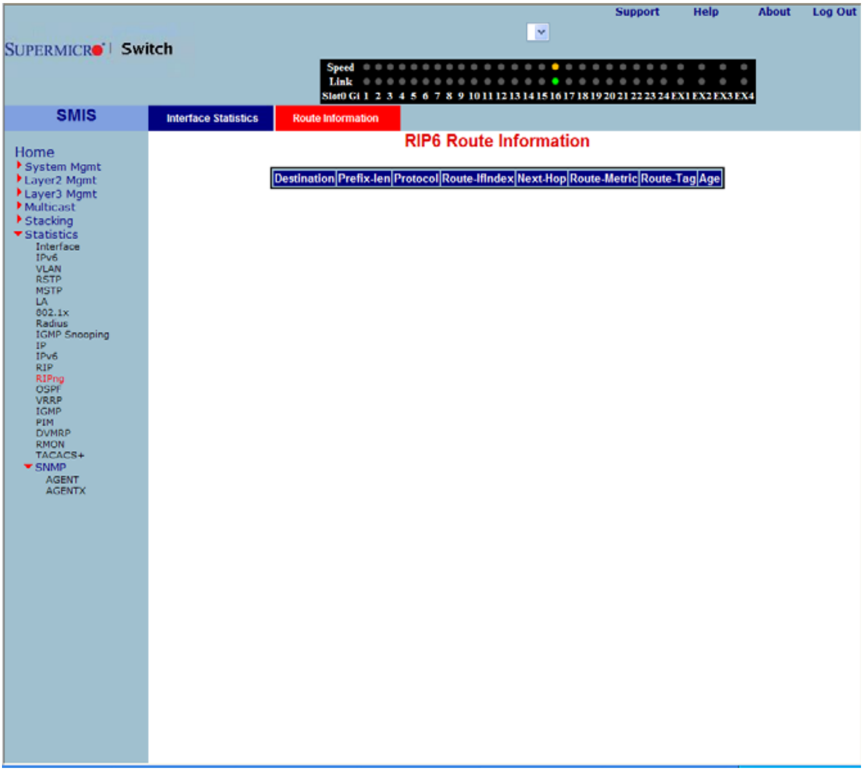
RIP6 Interface Statistics

Interface ID	In Msg	In Req	In Resp	In Unk Cmd	In Other Ver	In Discards	Out Msg	Out Req	Out Resp	Out TrigUpd

Clicking on the INTERFACE STATISTICS tab brings up the RIP6 INTERFACE STATISTICS page (Figure 7-182). This page displays management information applicable to all the interfaces available in the switch.

Route Information

Figure 7-183. RIP6 Route Information Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Interface Statistics
Route Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

RIP6 Route Information

Destination	Prefix-len	Protocol	Route-IfIndex	Next-Hop	Route-Metric	Route-Tag	Age

Clicking on the ROUTE INFORMATION tab brings up the RIP6 ROUTE INFORMATION page (Figure 7-183). This page displays statistics for a collection of Ethernet-like interfaces attached to the ISS.

OSPF

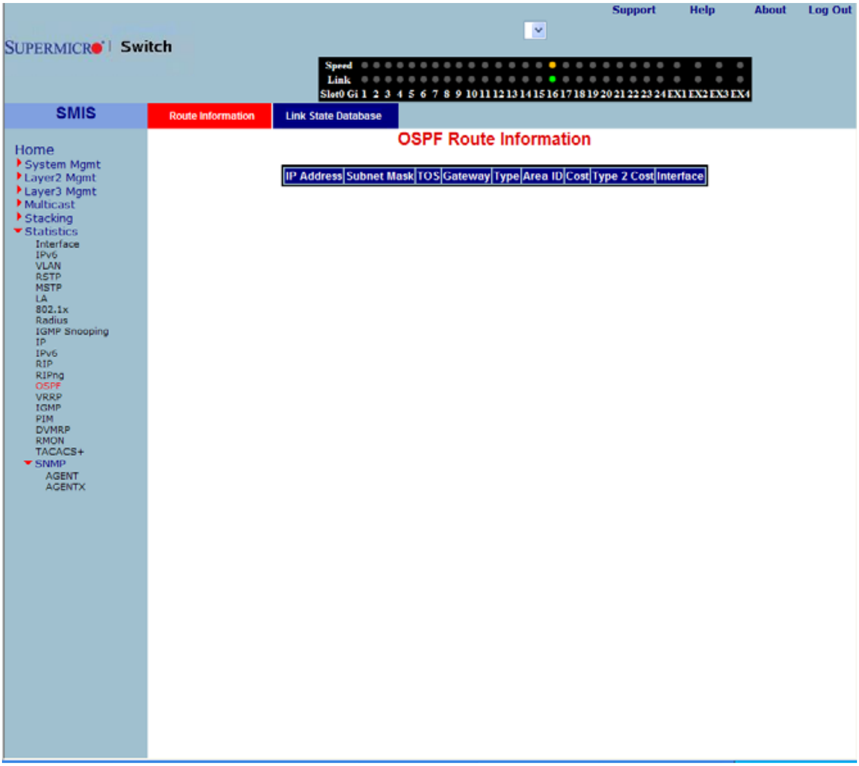
The following control tabs are available under OSPF Statistics:

- Route Information
- Link State Database

The OSPF ROUTE INFORMATION tab is the default.

Route Information

Figure 7-184. OSPF Route Information Page


Support
Help
About
Log Out
SUPERMICRO
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Route Information
Link State Database
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

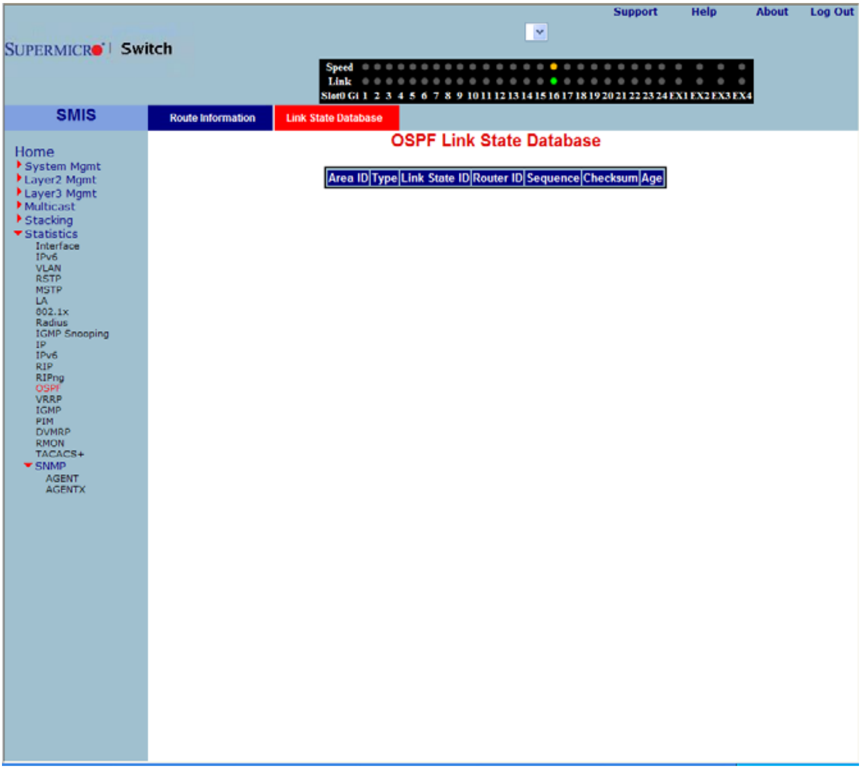
OSPF Route Information

IP Address	Subnet Mask	TOS	Gateway	Type	Area ID	Cost	Type 2 Cost	Interface

Clicking on the ROUTE INFORMATION tab brings up the OSPF ROUTE INFORMATION page (Figure 7-184). This page shows information regarding the OSPF routes. It includes statistical information for the IP ADDRESS, MASK, TYPE OF SERVICE, NEXT HOP, INTERFACE index, ROUTE type, COST, AREA ID, and TYPE 2 COST.

Link State Database

Figure 7-185. OSPF Link State Database Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Route Information
Link State Database
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

OSPF Link State Database

Area ID	Type	Link State ID	Router ID	Sequence	Checksum	Age

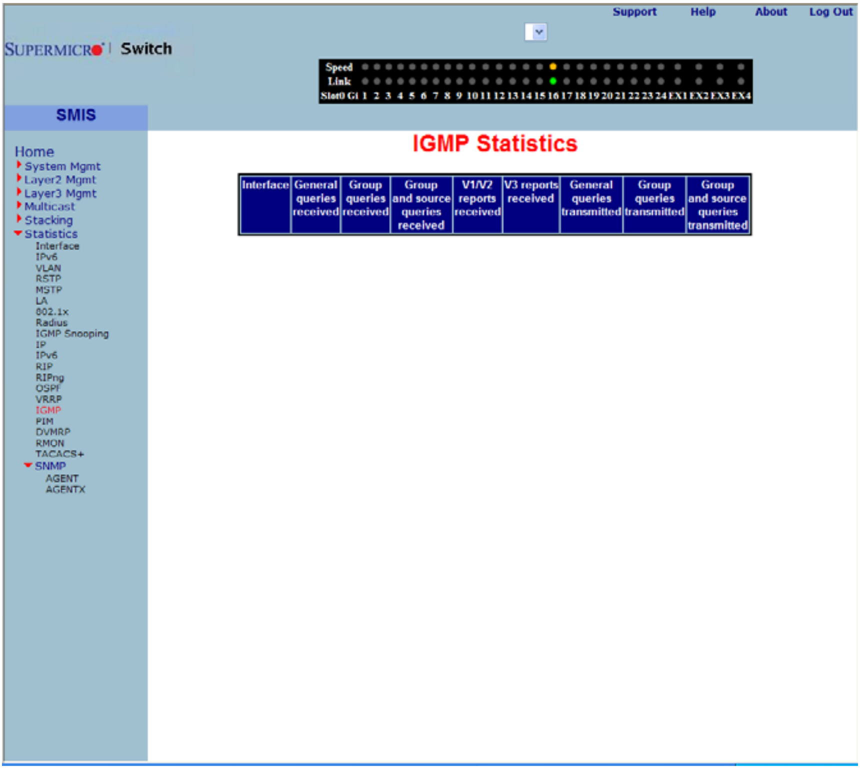
Clicking on the LINK STATE DATABASE tab brings up the OSPF LINK STATE DATABASE page (Figure 7-185). This page shows information on a single link state advertisement. It includes the LINK STATE ID, TYPE, AREA ID, ROUTER ID, AGE, SEQUENCE and CHECKSUM.

VRRP

Clicking on the VRRP link displays a page with **VRRP Global Statistics** and **Per VRID Statistics**.

IGMP

Figure 7-186. IGMP Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

IGMP Statistics

Interface	General queries received	Group queries received	Group and source queries received	V1/V2 reports received	V3 reports received	General queries transmitted	Group queries transmitted	Group and source queries transmitted

Clicking on the IGMP link brings up the IGMP STATISTICS page (Figure 7-186). This page shows statistics for IGMP Queries received and transmitted, IGMP reports (v1/v2/v3) received and IGMP leaves received

PIM

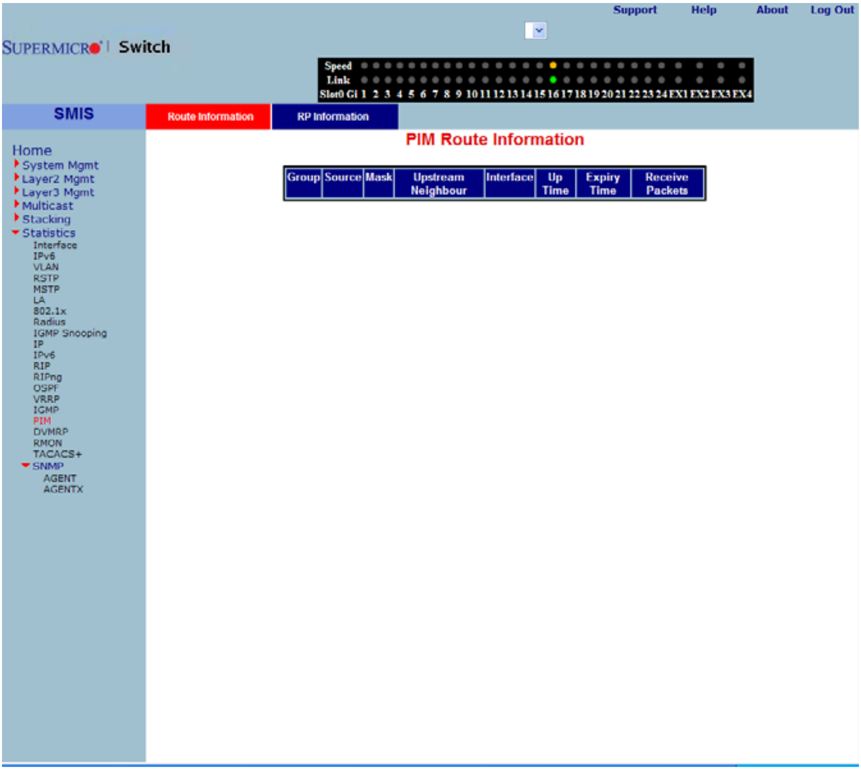
The following control tabs are available under PIM Statistics:

- Route Information
- RP Information

The PIM ROUTE INFORMATION tab is the default.

Route Information

Figure 7-187. PIM Route Information Page

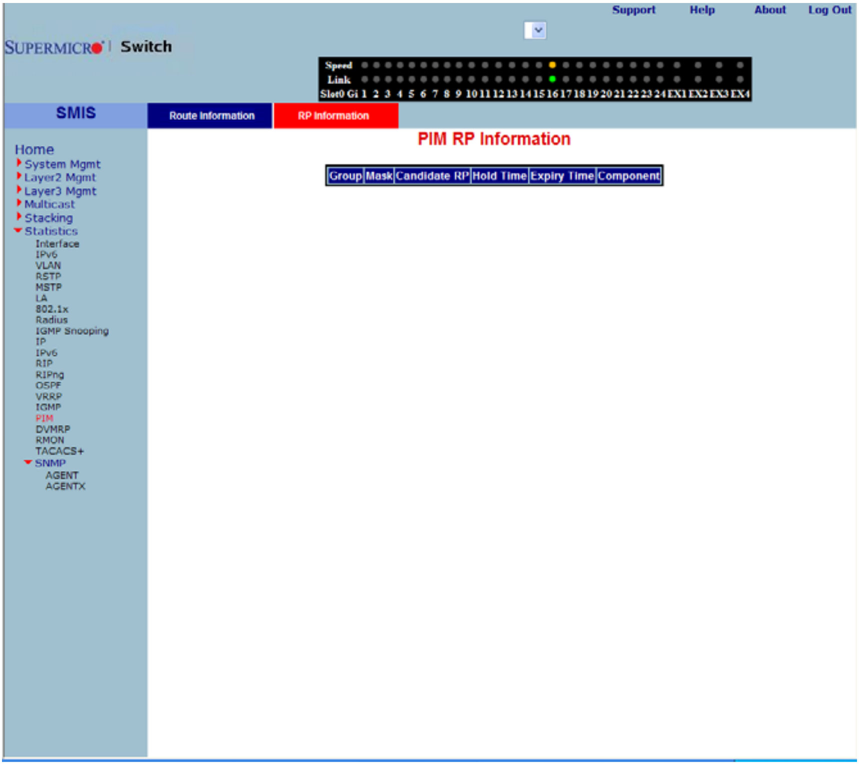

Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Route Information
RP Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
PIM Route Information

Group	Source	Mask	Upstream Neighbour	Interface	Up Time	Expiry Time	Receive Packets

Clicking on the ROUTE INFORMATION tab brings up the PIM ROUTE INFORMATION page (Figure 7-187). This page shows information on PIM Multicast routing information. It includes the GROUP, SOURCE, MASK, UPSTREAM NEIGHBOR, INTERFACE INDEX, UP TIME, EXPIRY TIME and ROUTE PACKETS.

RP Information

Figure 7-188. PIM RP Information Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Route Information
RP Information
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

PIM RP Information

Group	Mask	Candidate RP	Hold Time	Expiry Time	Component

Clicking on the RP Information tab brings up the PIM RP Information page (Figure 7-188). This page shows information on the candidate Rendezvous Point for IP Multicast groups. If the local router is the BSR the information is obtained from received Candidate-RP-Advertisements. If not, the information is obtained from received RP-Set messages.

DVMRP

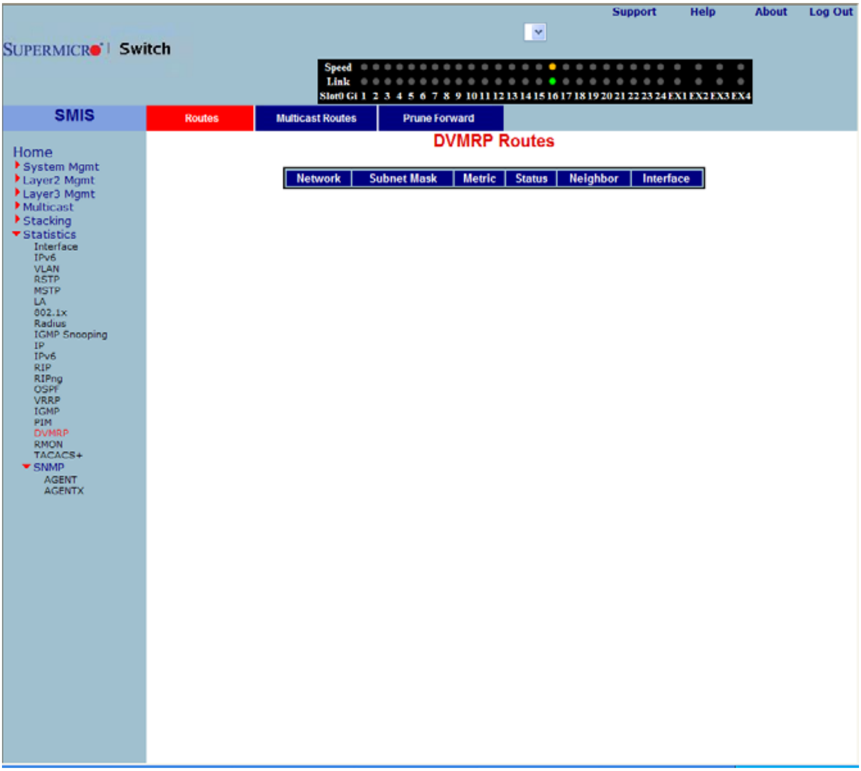
The following control tabs are available under DVMRP Statistics:

- Routes
- Multicast Routes
- Prune Forward

The ROUTES tab is the default.

Routes

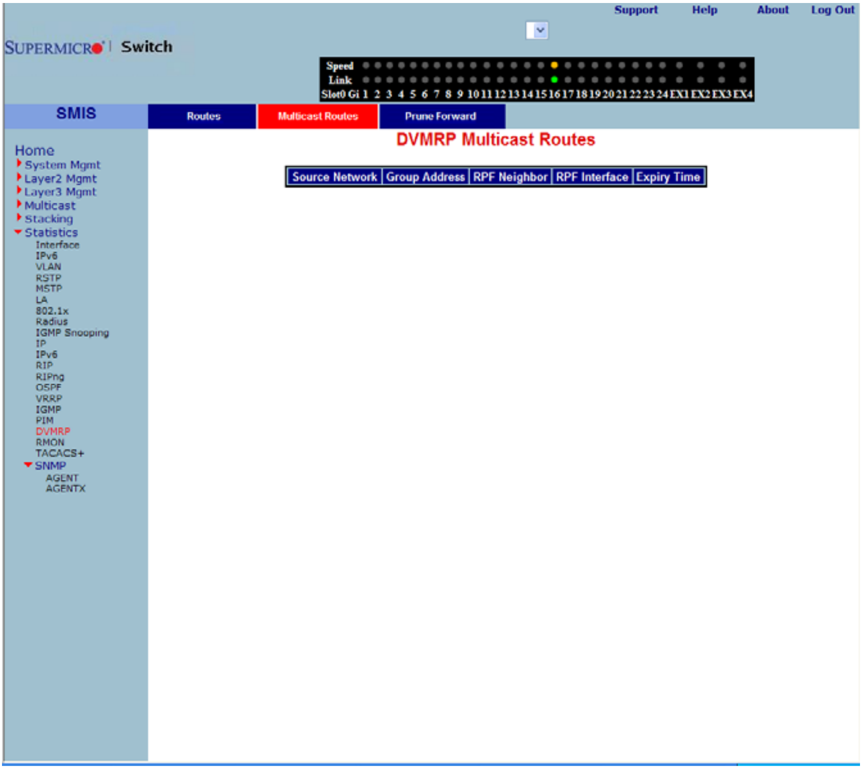
Figure 7-189. DVMRP Routes Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Routes
Multicast Routes
Prune Forward
DVMRP Routes
Network
Subnet Mask
Metric
Status
Neighbor
Interface
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

Clicking on the ROUTE tab brings up the DVMRP ROUTES page (Figure 7-189). This page displays information about the routes learnt through DVMRP route exchange.

Multicast Routes

Figure 7-190. DVMRP Multicast Routes Page


Support
Help
About
Log Out
SUPERMICR● | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Routes
Multicast Routes
Prune Forward
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

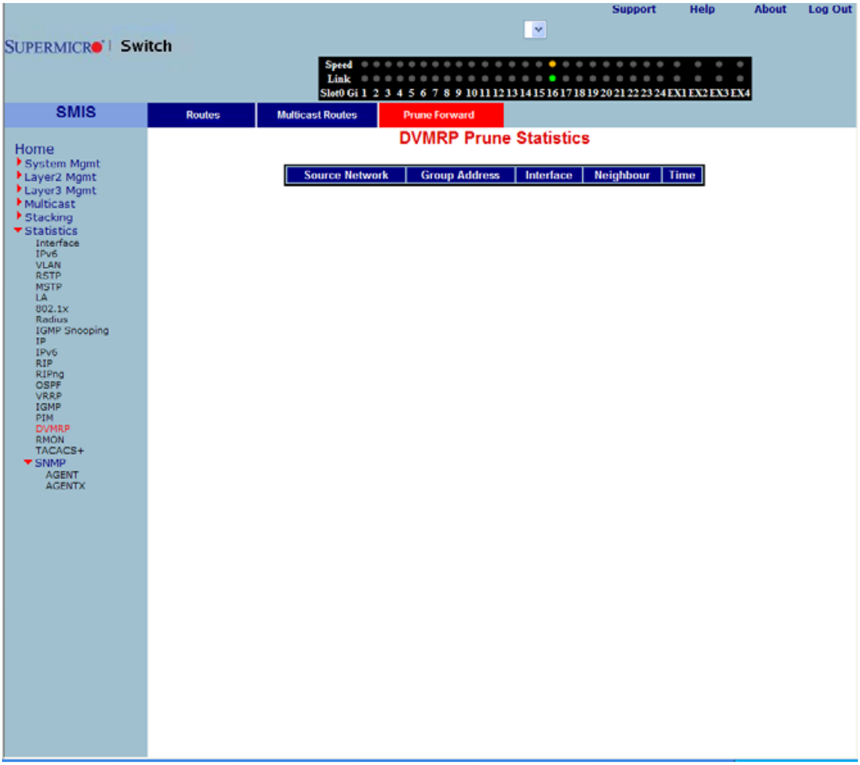
DVMRP Multicast Routes

Source Network	Group Address	RPF Neighbor	RPF Interface	Expiry Time

Clicking on the MULTICAST ROUTES tab brings up the DVMRP MULTICAST ROUTES page (Figure 7-190). This page lists the multicast routes learnt through DVMRP.

Prune Forward

Figure 7-191. DVMRP Prune Statistics Page


Support
Help
About
Log Out
SUPERMICR
Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Routes
Multicast Routes
Prune Forward
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

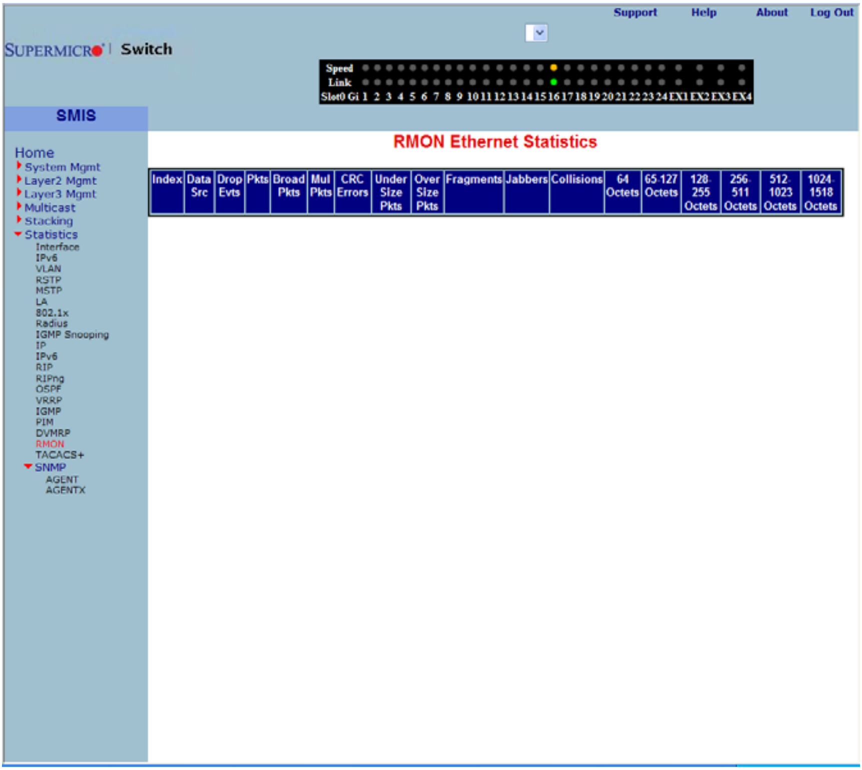
DVMRP Prune Statistics

Source Network	Group Address	Interface	Neighbour	Time

Clicking on the PRUNE FORWARD tab brings up the DVMRP PRUNE STATISTICS page (Figure 7-191). This page displays information about the DVMRP's forwarding table entries. This includes the SOURCE NETWORK, the GROUP ADDRESS, the address of the NEIGHBOR from which the prune is received, the value of the Prune TIME.

RMON

Figure 7-192. RMON Ethernet Statistics Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

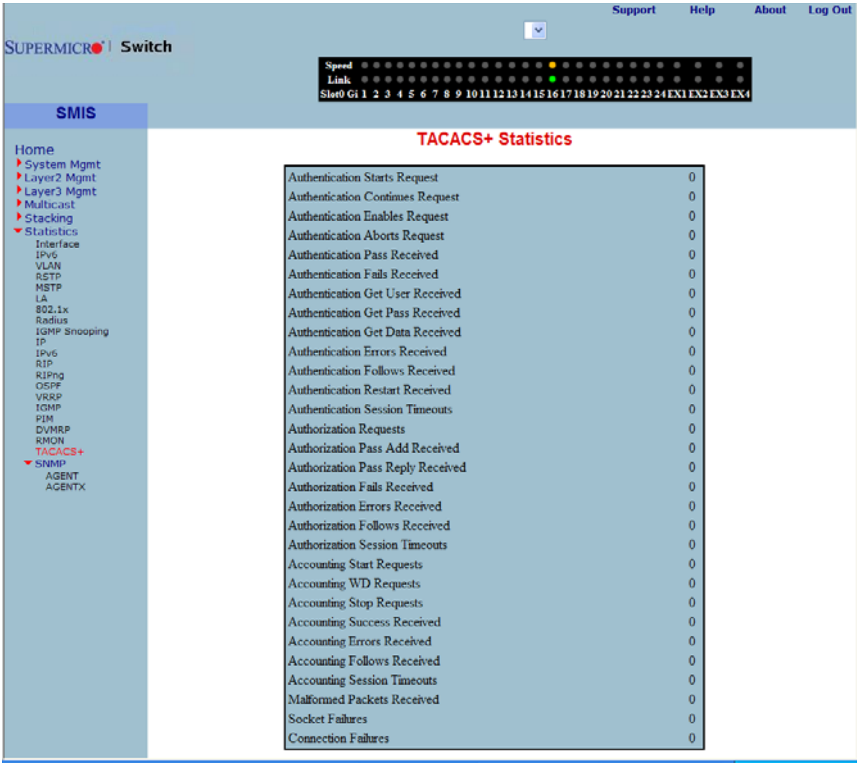
RMON Ethernet Statistics

Index	Data Src	Drop Evts	Pkts	Broad Pkts	Mul Pkts	CRC Errors	Under Size Pkts	Over Size Pkts	Fragments	Jabbers	Collisions	64 Octets	65-127 Octets	128-255 Octets	256-511 Octets	512-1023 Octets	1024-1518 Octets

Clicking on the RMON link brings up the RMON ETHERNET STATISTICS page (Figure 7-192).

TACACS+

Figure 7-193. TACACS+ Statistics Page


Support
Help
About
Log Out
SUPERMICRO Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX

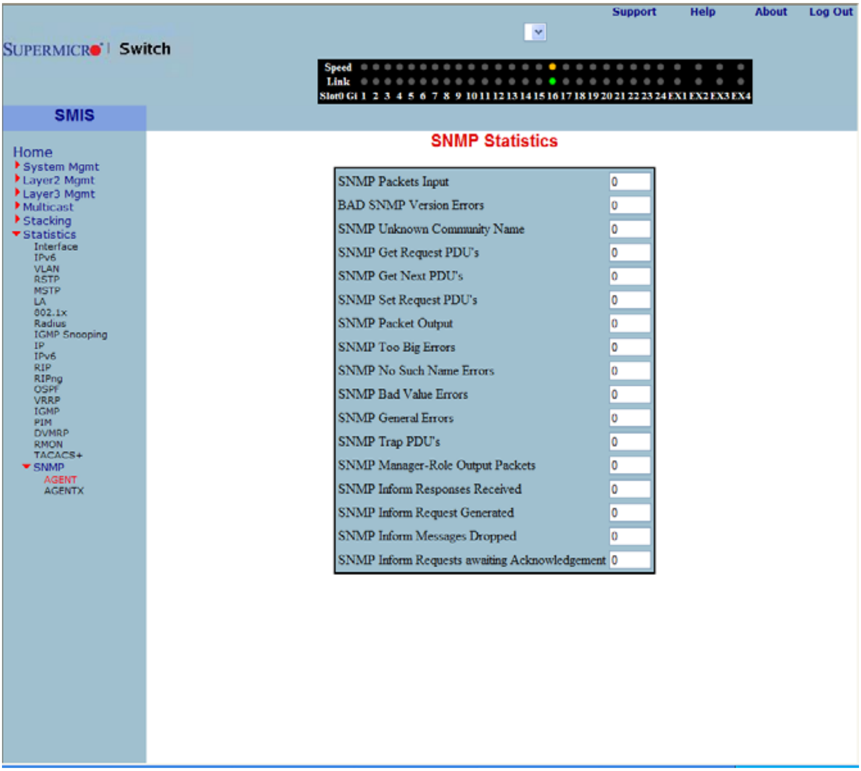
TACACS+ Statistics

Authentication Starts Request	0
Authentication Continues Request	0
Authentication Enables Request	0
Authentication Aborts Request	0
Authentication Pass Received	0
Authentication Fails Received	0
Authentication Get User Received	0
Authentication Get Pass Received	0
Authentication Get Data Received	0
Authentication Errors Received	0
Authentication Follows Received	0
Authentication Restart Received	0
Authentication Session Timeouts	0
Authorization Requests	0
Authorization Pass Add Received	0
Authorization Pass Reply Received	0
Authorization Fails Received	0
Authorization Errors Received	0
Authorization Follows Received	0
Authorization Session Timeouts	0
Accounting Start Requests	0
Accounting WD Requests	0
Accounting Stop Requests	0
Accounting Success Received	0
Accounting Errors Received	0
Accounting Follows Received	0
Accounting Session Timeouts	0
Malformed Packets Received	0
Socket Failures	0
Connection Failures	0

Clicking on the TACACS+ tab brings up the TACACS+ STATISTICS page (Figure 7-193).

SNMP

Figure 7-194. SNMP Statistics Page


Support
Help
About
Log Out
SUPERMICRO | Switch
Speed
Link
Slot0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 EX1 EX2 EX3 EX4
SMIS
Home
System Mgmt
Layer2 Mgmt
Layer3 Mgmt
Multicast
Stacking
Statistics
Interface
IPv6
VLAN
RSTP
MSTP
LA
802.1x
Radius
IGMP Snooping
IP
IPv6
RIP
RIPng
OSPF
VRRP
IGMP
PIM
DVMRP
RMON
TACACS+
SNMP
AGENT
AGENTX
SNMP Statistics

SNMP Packets Input	0
BAD SNMP Version Errors	0
SNMP Unknown Community Name	0
SNMP Get Request PDU's	0
SNMP Get Next PDU's	0
SNMP Set Request PDU's	0
SNMP Packet Output	0
SNMP Too Big Errors	0
SNMP No Such Name Errors	0
SNMP Bad Value Errors	0
SNMP General Errors	0
SNMP Trap PDU's	0
SNMP Manager-Role Output Packets	0
SNMP Inform Responses Received	0
SNMP Inform Request Generated	0
SNMP Inform Messages Dropped	0
SNMP Inform Requests awaiting Acknowledgement	0

Clicking on the SNMP tab brings up the SNMP STATISTICS page (Figure 7-194).

Notes

Appendix A
HCA Mezzanine Cards

This appendix describes safety guidelines, features and installation of HCA Mezzanine cards used with the InfiniBand and 10-Gb switch module. See Chapter 4 for further details on the InfiniBand module. See Chapter 5 for further details on the 10-Gb switch module.

A-1 Safety Guidelines

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

ESD Safety Guidelines

Electric Static Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing a component from the antistatic bag.
- Handle the add-on card by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the card and peripherals back into their antistatic bags when not in use.

General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer.
- Disconnect the power cable before installing or removing any cables from the system.
- Make sure that the add-on card is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

A-2 Mezzanine HCA Cards

Available Mezzanine HCA cards for use with the SuperBlade InfiniBand switch are shown below. The AOC-IBH-001 card has dual 4x DDR IB ports. The AOC-IBH-002 card has a single 4x DDR IB port. The AOC-IBH-003 card has dual ports which can be either 4xDDR IB or 10Gbps Ethernet.

NOTE: All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

Figure A-1. AOC-IBH-001 Mezzanine HCA Card

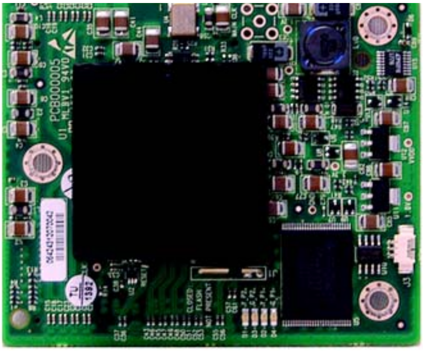


Figure A-2. AOC-IBH-002 Mezzanine HCA Card

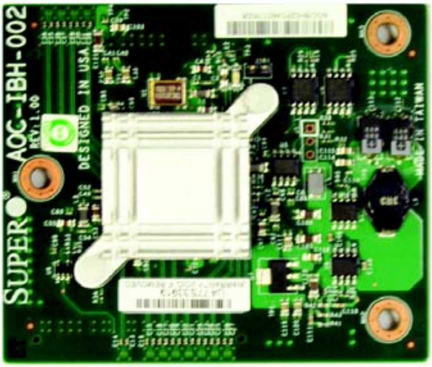
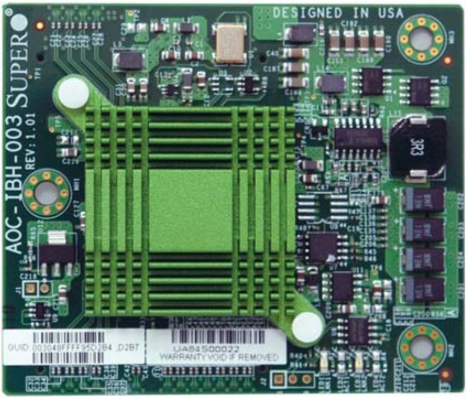


Figure A-3. AOC-IBH-003 Mezzanine HCA Card

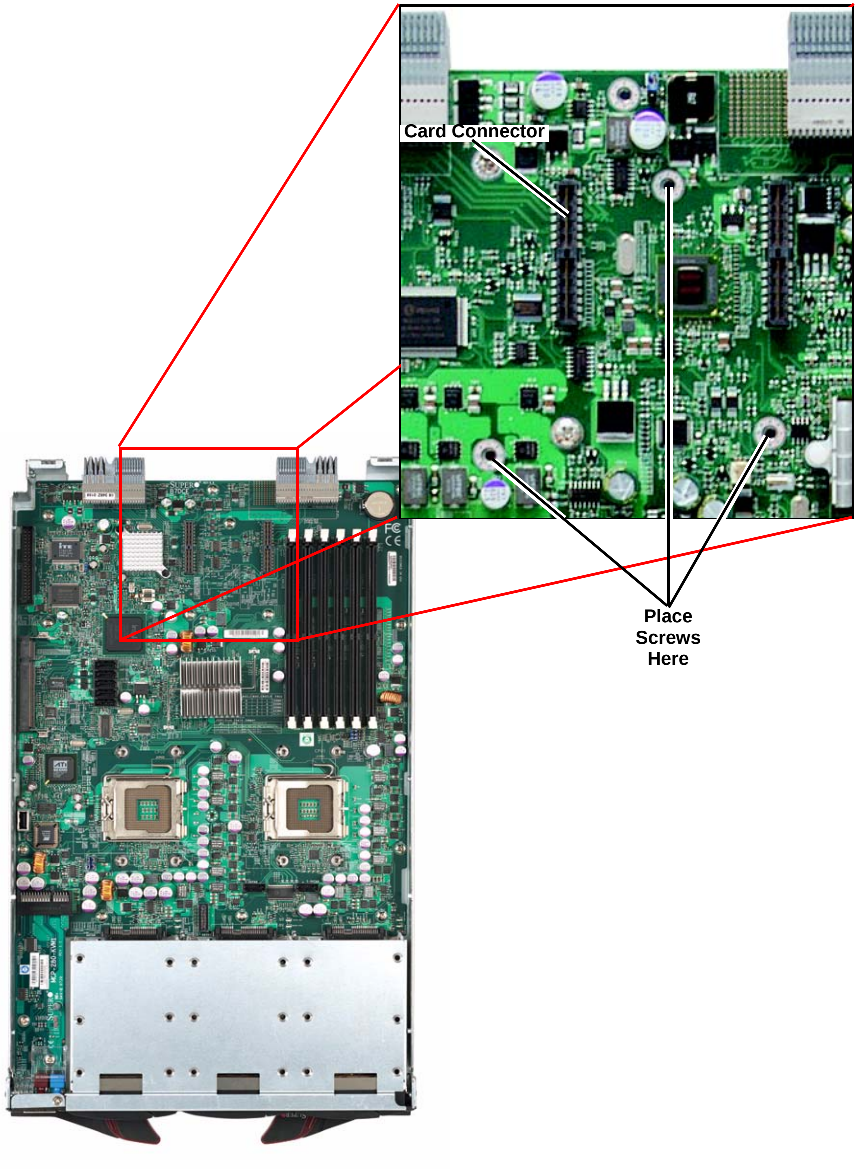


NOTE: AOC-IBH-001 and AOC-IBH-003 Mezzanine HCA cards are dual port cards and can be used iwth the InfiniBand switch installed in either the top or the bottom double-wide location. See Chapter 4: "InfiniBand Module" on page 4-1 or details.

The AOC-IBH-002 Mezzanine HCA card is a single port card and can only connect to an InfiniBand switch in the bottom location.

A-3 Installation

Figure A-4. Installation Location


Card Connector
Place
Screws
Here

Installation Location

All models of the Mezzanine HCA card are compatible with both SBI and SBA blade modules. For the latest compatibility information, see our web site:

http://www.supermicro.com/products/superblade/

Card Installation

To Install an HCA Card:

1. Confirm that you have the correct card and three (3) screws.
2. Following the instructions from the SuperBlade Manual, remove the blade module and open the cover to access the mainboard.
3. In a standard, electro-magnetically protected workstation, secure the card to the serverboard by gently but firmly attaching the card to the two connectors.
4. Using a Phillips screw driver, secure and tighten each screw one at a time. Do not overtighten the screws.

Figure A-5. Card Installation

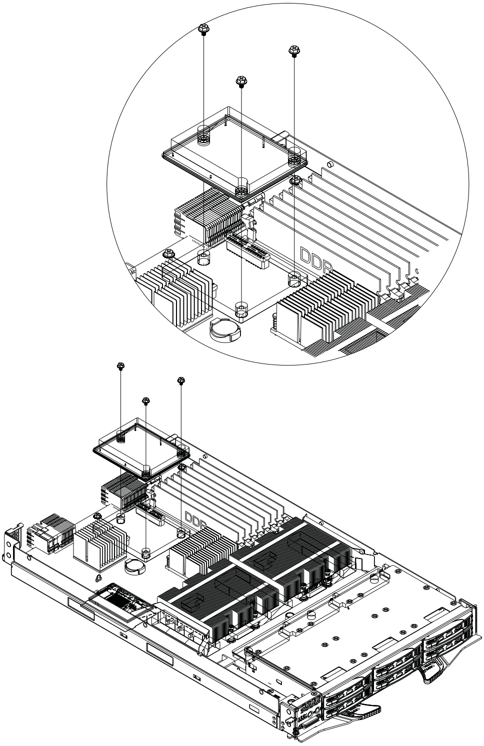
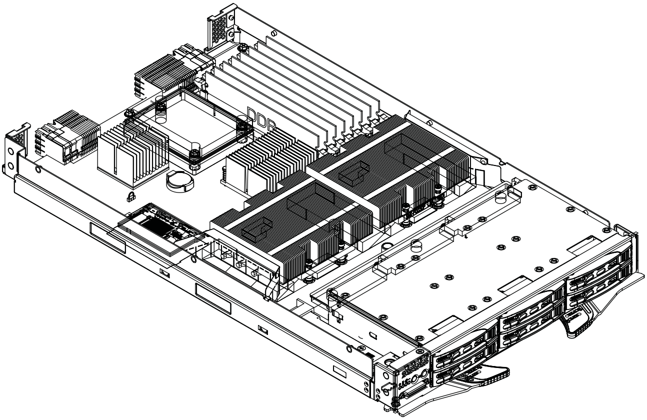


Figure A-6. Installation Complete



Appendix B
LED Descriptions

This appendix covers LED descriptions for the blade enclosure and other module components. The LED descriptions for the InfiniBand switch, Gigabit Ethernet modules and Blade modules are included here for your reference.

B-1 Gigabit Ethernet Module LED Descriptions

SBM-GEM-001 Gigabit Ethernet module and SBM-GEM-002 Pass-through module LEDs are described below in Table B-1.

Table B-1. Gigabit Ethernet Switch LED Indicators

LED	State	Description
Module Initiation OK LED (**GEM-001 Module Only**)	Steady On	The GEM-001 GbE switch module is operational and has passed the POST (Power-On Self-Test) with no critical faults.
Module Fault LED (Red) (**GEM-001 Module Only**)	Steady On	When lit, this LED indicates that the GEM-001 GbE switch module has either failed the POST or has detected an operational fault within the module. When this LED is lit, the fault LED on the blade enclosure will also turn on.
Link/Activity Ethernet Port Status LED	Solid Green	This indicates that the link is established, no activity
	Blinking Green	This indicates that data is being transmitted (Tx) or received (Rx)
	Off	This indicates that no link is established
Speed Ethernet Port Status LED (**GEM-001 Module Only**)	Amber	Connection speed of the port is 1 Gb/sec
	Green	Connection speed of the port is 100 Mb/sec
	Off	Connection speed of the port is 10 Mb/sec

B-2 1/10 Gigabit Ethernet Module LED Descriptions

The SBM-GEM-X2C 1/10 Gps Ethernet module and XEM-002 10GbE Pass-through Module LEDs are described below in Table B-2.

Table B-2. 1/10 Gigabit Ethernet Switch LED Indicators

LED	State	Description
RJ-45 Link/Activity (**GEM-X2C Module Only**)	Green	Solid denotes link established, no activity. Blinking denotes activity. Off indicates that no link is established.
RJ-45 Speed (**GEM-X2C Module Only**)	Amber/Green/ Off	Amber denotes 1 Gbps speed. Green denotes 100 Mbps speed. Off denotes 10 Mbps speed.
"Initiation OK" LED	Blue	Denotes successful initiation/OK status when solidly lit.
Module Fault LED	Red	Denotes SBM-GEM-001 module failure when solidly lit.
10G Port LEDs	Green	Denotes activity for 10Gbps port when solidly lit. Blinking green denotes data transmited (Tx) or received (Rx).
Stack ID LEDs (**GEM-X2C Module Only**)	Green	Denotes Stack ID activity as shown in Table B-3 below.

Table B-3. Stacking LED Activity

Stack LED 4	Stack LED 3	Stack LED 2	Stack LED 1	Stacking Switch Identifier
OFF	OFF	OFF	ON	1
OFF	OFF	ON	OFF	2
OFF	OFF	ON	ON	3
OFF	ON	OFF	OFF	4
OFF	ON	OFF	ON	5
OFF	ON	ON	OFF	6
OFF	ON	ON	ON	7
ON	OFF	OFF	OFF	8
ON	OFF	OFF	ON	9
ON	OFF	ON	OFF	10
ON	OFF	ON	ON	11
ON	ON	OFF	OFF	12
ON	ON	OFF	ON	13
ON	ON	ON	OFF	14
ON	ON	ON	ON	15
OFF	OFF	OFF	OFF	16 / Stacking Disabled.

B-3 InfiniBand Switch LED Descriptions

InfiniBand switch module LEDs are found below in Table B-4.

Table B-4. InfiniBand Switch LEDs

LED	State	Indication Description
Module Status LED	Blink	Switch is booting its firmware
	Steady On	Boot process failed
	Off	Switch is properly booted and operational
Module Power LED (Green)	Steady On	Switch has power and is operational
	Off	There is a problem with the power being supplied to the switch.
Port Physical Link LED (Green)	Steady On	Physical link established
	Blink	Physical link error, poor connection quality
	Off	Port is off or has no physical connection
Port Activity LED (Yellow)	Steady On	Logic link established, no activity
	Blinking	Data transferring to/from the port
	Off	Logical link is down

Notes

Disclaimer

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.